See & Hear

NATIONAL AUDIO-VISUAL EDUCATION JOURNAL

Issue Eight • Volume Six • 1951

An Essential Guide to Over 2,900 Essential Pictures

The INDEX OF TRAINING FILMS

THE COMPLETELY revised Third Edition of The Index of Training Films now provides education and industry with the only complete and up-to-date film listing of its kind—specializing in the factual and technical motion pictures and slidefilms of, by, and about industry. It's a "must" for shop classes, training groups of all kinds, and for general educational background reference in this national defense period.

There are over 2,900 films (and their sources) listed and described from Aviation to Woodworking; the Index also includes such related subjects as Engineering, Industrial Relations, Production Methods, and Time and Motion Study Films. Invaluable as a starting point for vocational school film programs, small plants or large, where only a projector and postage fund is needed to maintain a film program.

For national defense programs, there are whole sections devoted to films on aviation, electronics, machine shop. Materials and metals are covered in detail from Aluminum to Tin. Plastics, Refrigeration, and other key industrial fields are also included with liberal selections of films. Junior and Senior High School groups will find excellent subject matter for Science, Economics, Shop, and other classes.

An introduction shows how simple it is to obtain these films and gives data on related sources such as Safety Films, etc.

Includes Over 2,900 Films and Sources in These Fields:

Aviation Industry
Automotive Industry
Ceramics and Glass
Chemical Industry
Electronics Films
Engineering Films
Engines: all Types
Food Products Films
Foundry & Forging
Hydraulics Films
Industrial Relations
Machine Shop Work
Materials & Metals (Aluminum to Tin)
Office Practice Films
Optics-Photography
Petroleum Industry
Physics Fundamentals
Plastics Industry
Precision Measurement
Production Methods
Railroad Industry
Refrigeration Films
Sheet Metal Work
Shipbuilding Films
Welding Pictures
Wood & Lumber Films
—also Building, Printing, Rubber, Textiles, etc.

TWO DOLLARS PER COPY

(Write for schedule of liberal discounts to schools and industry on quantity orders.)

AUDIO-VISUAL GUIDE LIBRARY

Order direct from 150 East Superior Street • Chicago 11, Ill.

PUBLISHERS OF THE FARM FILM GUIDE • SAFETY FILM DIRECTORY
SPORTS FILM GUIDE • PROJECTIONIST'S HANDBOOK • SALES FILM GUIDE

Capture your audience from the first frame . . .

The new Kodascope *Pageant* Sound Projector

Sound movies are a potent tool for sales, training, and education—a wonderful entertainment medium. The Kodascope Pageant Sound Projector provides the realism in sight and sound that means convincing performances every time with 16mm. movies.

An improved optical system gives unusual projection brilliance. Pictures are sharp and clear from corner to corner. And the Pageant's unique audio system and "sound focusing" control assure clear, authentic tones at all volume levels.

Easy to thread and operate, the Kodascope Pageant, complete with speaker in a single case, weighs only 33 pounds. Rugged construction and permanent lubrication mean years of service. Price—$375. See it at your dealer's, or write for the free booklet, "The Kodascope Pageant Sound Projector." Eastman Kodak Company, Rochester 4, N. Y.

Price subject to change without notice. Consult your dealer.

FOR EDUCATION and ENTERTAINMENT

• Ideally suited for classroom or auditorium audio-visual instruction and entertainment • Ease of operation and ability to withstand abuse assure long, reliable life • Brilliant screen image and faultless sound reproduction mean no straining of eyes and ears. Also shows silent films, and has connection for microphone or record player.

MOTION PICTURES . . . teach, train, entertain

112

EASTMAN KODAK COMPANY, Rochester 4, N. Y.

Please send me ☐ *your folder "The Kodascope Pageant Sound Projector";* ☐ *arrange a showing of your special Kodascope Pageant Sound Projector demonstration film.*

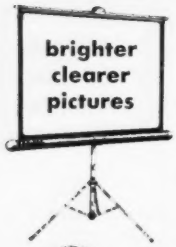
NAME_____

STREET_____

CITY_____ ZONE_____

STATE_____

4 way better
RADIANT SCREEN



1

New Radiant Glass Beaded Screen Surface—made by exclusive Radiant process. Millions of tiny glass beads reflect light instead of absorbing it—giving brighter, clearer, sharper pictures.

2

New Radiant Washable Fabric—enables you to keep your screen surface glistening white always. Just wipe with damp cloth—that's all there is to it!

3

New Radiant Mildew-Proof Screen Fabric—Exclusive special Radiant fabric protects your screen from discoloration by mildew or fungus. Screen stays snowy white for years!

4

New Radiant Flame-Proof Fabric — will not support a flame. Gives added protection against screen damage. Is the safest screen you can buy!

send for free sample

of this amazing new Radiant screen fabric. See how much more brilliant your pictures can be on this miracle fabric. Write for it today — also for latest illustrated brochure on complete line of Radiant portable, wall and table screens for all purposes.

RADIANT MFG. CORPORATION
1266 S. Talman Ave., Chicago 8, Illinois

RADIANT
PROJECTION SCREENS

Panel on TV Will Advise Commission On Using Medium Here and Abroad

♦ A panel on television, based upon a plan proposed by L. C. Larson, director of the audio-visual center of the University of Indiana, will be set up by the U. S. National Commission for UNESCO to make use of the "enormous potential of television for the purposes of UNESCO here and abroad," following action taken at the Commission session last month in Washington. Larson is a member of the Commission and representative of the Educational Film Library Association. The subject of TV use to spread international understanding through education, science and culture was on the agenda of the sixth session of the General Conference of UNESCO in Paris this month.

The panel will advise the Commission on means for the use and development of TV, policies, international exchange of scripts, kinescopes and visual materials, methods of use, and possibilities of obtaining private financial support for production and experimentation with educational TV programs to be utilized by commercial or educational facilities or both.

The Commission was informed there are 13 million sets in this country and that a dozen or more countries are telecasting. Sample kinescopes of The Johns Hopkins Science Review, network TV program, are being made available to UNESCO.

* * *

15 Collegians Named in First List of Winning Radio Script Writers

♦ Fifteen college students share the awards in a part listing of winners in the annual script contest conducted by the Association for Education by Radio.

The winners receive contest expense money and cash awards contributed by Audio Devices, New York; WJJD, Chicago; the Protestant Radio Commission, New York, and the eastern region of the Association. World Book Encyclopedia is giving a complete set of encyclopedias to the winners of open classes. Audio Devices also is sending 25 Audiodiscs and six sapphire styli to the writers' instructors.

Films for 50,000 Churches Having Projectors Is Producer Problem

♦ Producers of 16mm films on religious subjects face a problem of supplying screen material for the 50,000 churches which have projectors (one-fifth of the churches in America), the 256 religious denominations and 73,000,000 churchgoers, according to Reverend James K. Friedrich, president of Cathedral Films.

The occasion was the previewing, at the Disney Studios in Burbank, Calif., of *Voyage to Rome*, the twelfth and final chapter of the 36-reel series on the life of St. Paul. The same cast was used for the two and one-half years of shooting time. The series averaged $30,000 production costs, has several hundred speaking parts and 264 sets.

* * *

$60 Million Sales of A-V Equipment Predicted for 1951-52 School Year

♦ Predicted sales of a-v equipment for the 1951-52 school year exceed 60 million dollars, according to data collected by the National Audio-Visual Association at the request of the Government.

The total is exclusive of forecast sales of films, filmstrips, records and other a-v materials.

* * *

SVE Veteran Employees Honored

♦ Plans for a 10 Year Employees Club were initiated for the Society of Visual Education at a Chicago luncheon in honor of 13 long-time staff members. Gold wrist watches were presented to three who had completed a quarter-century of service to the company: B. J. Kleerup, vice president in charge of engineering; W. I. Nash, art director, and Irene G. Doyle of the sales department. Similarly honored was R. M. Griffin, western division sales manager who retired April 30 after 14 years with SVE.

* * *

Martin New Coronet Dealer in Ohio

♦ Educators in eastern and central Ohio have a new nearby source of Coronet Instructional Films in the M. H. Martin Co. of Massillon. Martin also has a rental library of most Coronet productions.

See & Hear • The National Audio-Visual Journal

Office of Publication • 150 East Superior Street • Chicago 11, Illinois

See & Hear: The National Magazine of Sight & Sound in Education. Issue 8 of Volume 6, published May-June, 1951. Issued 9 times annually during the school year from September to May inclusive. Published at 150 E. Superior Street, Chicago 11, by Audio-Visual Publications, Inc. E. M. Hale, president; O. H. Coelln, Jr., vice-president; Harold Hall, business manager. New York Office: Robert Seymour, Jr., manager, 501 West 113th Street. Los Angeles Office: Edmund Kerr, manager, 6605 Hollywood Boulevard. By subscription $3.00 per year; $5.00 for two years. Entered as second class matter, October 19, 1948 at the post office at Chicago, Illinois, under the Act of March 3, 1879.

Entire contents copyright 1951; international rights reserved. Address all advertising and subscription requests to the Chicago office of publication noted above.

How Do You Select Films?

If you are a regular user of educational motion pictures, you want the best, the most authentic films available. But on what basis should you make your selection? Some producers point to exaggerated or twisted statistical claims as to the use of their films; others submit age a "proof" of value. We contend these are rather unsafe, unacademic factors to use as a guide in buying or renting films.

On the other hand, many thousands of classroom teachers, audio-visual directors and group leaders prefer Coronet Instructional Films simply because, title-for-title, they do a better, more effective teaching job. That's an honest, practical reason — based on a film's *individual merit*.

Each subject produced by Coronet Films is designed to serve specific teaching needs . . . to supply a necessary part of the instructional program. Little wonder that experienced educators look to Coronet Films when they wish to develop a *balanced program* of modern, helpful teaching films.

Consider the titles of these new Coronet Films . . . see how easily they can fit into *your* audio-visual program.

It's Fun To Read Books
Literature Appreciation: English Lyrics
Beginning Responsibility: Taking Care of Things
Maps and Their Uses
French Influences in North America
Improve Your Personality
Effective Criticism
Our Country's Flag
Make Your Own Decisions
Good Eating Habits
Learn To Argue Effectively
Good Table Manners
Importance of Making Notes
How To Give and Take Instructions

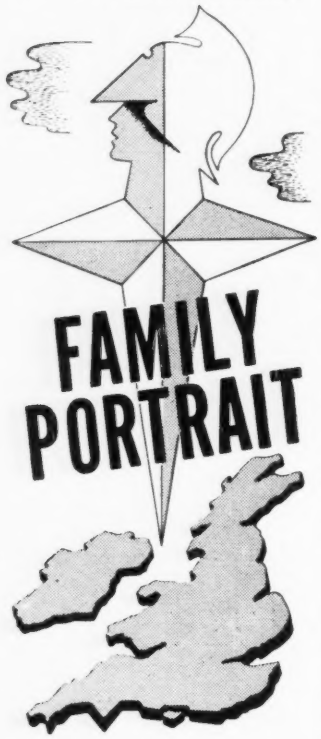
These are but a few of the 360 outstanding films described in the new 1951 catalog of Coronet Films. If you haven't received your FREE copy, write for it today to:

Coronet Films Dept. SH-1
CORONET BUILDING · CHICAGO 1, ILLINOIS

In Honor of the
FESTIVAL OF BRITAIN

B. I. S.

presents
HUMPHREY JENNINGS'
Last and Greatest Documentary



As a new film experience, as an historical study, as a contribution to international understanding, this especially commissioned portrait in film by the brilliant writer-director of "Silent Village" and "Diary for Timothy" should be in every educational film library and seen by every serious minded teacher and student.

16 mm sound b/w, 35 min.
Rental rate $3.75 per day, sale $75.

BRITISH INFORMATION SERVICES
30 Rockefeller Plaza, New York 30, N. Y.

SEE & HEAR *Camera*

Victor Animatograph Purchased; Sem Rose Is New President-Treasurer

♦ Purchase of the business of the Victor Animatograph Corporation, of Davenport, Iowa, and the formation of a new Iowa corporation, of which he is the president and treasurer, has been announced by Samuel G. Rose, former president, who assumes active management of the new 16mm motion picture equipment manufacturing firm.

Headquarters, administration, sales and service offices will be retained in Davenport.

Founded in 1910, the first Victor Animatograph Corporation operated the last five years as a division of the Curtiss-Wright Corporation.

Other officers of the new corporation are Vice Presidents Horace O. Jones, Eldon Imhoff and A. J. McClelland, and Secretary T. M. Arp. Additional members of the board are Daniel Needham, Carl F. Woods, E. V. Babbitt and George M. Friedlander, all of Boston, and George W. Lane, Jr., of Lewiston, Me.

The company, with sales outlets through 3,000 dealers and 75 distributors in the United States and others in 60 foreign countries, will have a branch sales office in New York City.

Alexander F. Victor, who in 1923 invented, produced, and sold early 16mm motion picture cameras and projectors, had established the company in 1910 to make motion picture appliances and materials. Eight years later he launched a movement to establish a non-theatrical safety film standard, and 16mm non-inflammable film followed. He retired in 1946.

Rose, who had become associated with Victor in the year the latter organized the company, has been a vice president and director of the National Association of Photographic Manufacturers, Inc., and a chairman of the a-v business advisory committee of the Film Council of America.

Eight New BIS Educational Subjects Range from Aviation to Sculpture

♦ Eight new or forthcoming releases announced by British Information Services have educational values in fields ranging from aviation to gardening to sculpture.

In *Britain's New Aircraft* (10 min., rental $1.50, purchase $32.50), taken at the Farnborough airfield exhibition of 58 planes, the sensational Meteor 8 climbs 40,000 feet in three minutes. *Family Portrait* (25 min., $3.75 and $75), the last completed work of the late Humphrey Jennings and a fitting subject for the observance of the Festival of Britain, the producer shows how the national characteristics and traditions are being adapted to the changing conditions of life. J. Arthur Rank's *Fight in Malaya* (20 min., $2.50 and $55) brings out the two-fold struggle to destroy Communist banditry and to weld the five Malayan races into a united nation. *Looking at Sculpture* (10 min., $1.50 rental, purchase price not yet announced) points the merits of limiting the number of objects to study in one visit. Here three different representations of the Madonna and Child are studied. *The Undefeated* (35 min., $5 and $125), British Film Academy award winner, shows the rehabilitation of a glider pilot who lost both legs and his speech. Brandon Films, Inc., of New York City is distributing *The Undefeated* and *Looking at Sculpture*.

* * *

Italian Culture Brought to Classes In Films on Rome, Florence, Venice

♦ Three new motion picture treatments of Italian culture, for high school and college classes, depict the arts, crafts and architecture of *Rome*, *Florence* and *Venice*. The Cornell Film Co., 1501 Broadway, New York City 18, has the films available for purchase as follows: *Rome*, 20 min., color $225, b & w $75; *Florence*, 12 min., color $112.50, b & w $45; and *Venice*, 18 min., color $225, b & w $75.

Cornell also announces the forthcoming release of *Target: U.S.A.*, on protection of plant and personnel in case of atomic attack.

A DAY OF *Thanksgiving*

1½ reels—16mm B&W $55

a "holiday" film with value all year long . . . a basic tool in the American Heritage pattern.

Young America Films
18 EAST 41st ST., NEW YORK CITY

Minnesota Sets Statewide Goal

19 A-V INFORMATION CENTERS IS 1951 AIM

★ An audio-visual center in every Minnesota city of more than 10,000 population, adding nine centers, and two more Film Councils in the state are the year's goal of the Minnesota Community Council Committee, whose chairman is Thomas W. Hope, head of the film department of General Mills, Inc. Minnesota now has four Film Councils and ten information centers.

The 56 state film leaders at the recent dinner meeting in Minneapolis, representing the Twin Cities and twenty other cities and towns, and all the local Film Councils, were informed by Robert de Kieffer of Stephens College, Columbia, Mo., principal speaker and last year's president of the Film Council of America, that the FCA has been chosen to handle UNESCO's film coupon plan to help sell American films to foreign countries. De Kieffer told how the FCA's widened peacetime operations have grown out of the wartime role of promoting films for morale.

The vision and progress which have pointed up Minnesota's a-v activities are reflected in the reports presented by the local councils. Community service and education are emphasized at the monthly meetings of the Duluth group, headed by Dr. Harold Goldstein of the Duluth Branch of the University of Minnesota. Three-fourths of the membership of the Twin City Council, directed by Paul Rusten, president of ELC Films in Minneapolis, are full-time a-v specialists. Its monthly gatherings alternate noon luncheons and evening dinner sessions.

Special projects of the International Council at International Falls include 320 public showings in one year to 20,522 attendance. Projectionists' training classes are conducted weekly. The Border Council spans the international boundary with a joint membership from the International Falls group and the Rainy River Film Council in Canada, a successful sharing of film services by organizations from two countries.

Chairman Hope, who was reelected, noted a responsibility of the FCA in connection with the fact that there necessarily are two types of local councils. In the large cities most members are engaged full-time in a-v work and many film programs already are in operation. In smaller cities and towns, however, the majority of members are non-professional. Here film programs must be set up and sponsored by the FCA, Hope said.

Other members of the new Minnesota Committee are: Richard C. Brower, visual and radio education supervisor for the Minnesota State Department of Education, whose articles on tape recorders have been a continuing service in SEE & HEAR MAGAZINE: Erwin Elke, director of the a-v extension service of the University of Minnesota: W. R Bassett, librarian, Worthington, Minn.: Max Karl, Minnesota secretary for the National Conference of Christians and Jews: and Dr. Goldstein, Rydberg and Rusten.

200 Classrooms Equipped at Petersburg, Va.

★ Educational leaders of Petersburg, Va., are going all out in their adoption of audio-visual communication tools for the school's program for the coming year.

Each classroom in the public schools of Petersburg is being equipped for a-v operation. Two hundred wall screens are being provided by the Radiant Manufacturing Corp., Chicago.

ACADEMY FILMS

announces the release of two remarkable new films for classroom use

"Nile River Valley and the People of the Lower River"

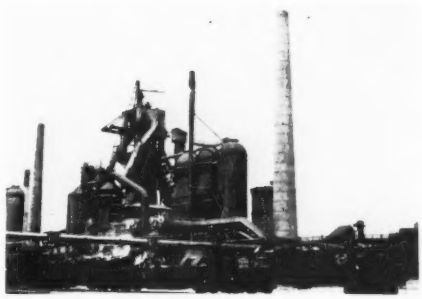
Newest in Academy Films' GREAT RIVERS series, this picture completes our study of the Nile from the great irrigation dams of Sudan through Egypt to the sea. The art, architecture, history, present day commerce and productivity of the valley and its people are presented by recently photographed film against an informed and interesting narrative-discussion of the historical and modern importance of the area. Animated maps are used extensively.

Grade level: 5th through High School

Time: 17 minutes

Price: in full color, $135.00; black and white, $67.50

"Iron — Product of the Blast Furnace"



The intricate process of converting iron ore, limestone and coke to pig iron, ready for steel-making, is detailed step-by-step simply and clearly on film taken in a modern smelting plant. Operation of the blast furnace itself is shown and explained in detail by animation. A very worthwhile companion film to our "Iron Ore Mining" film which has been so enthusiastically endorsed by audio-visual directors.

Grade level: 5th through High School

Time: 11 minutes

Price: in full color (including color animation) $90.00; black and white, $45.00

Preview prints of all films will be sent without obligation to audio-visual educators in private or public school work who wish to consider the purchase of prints. Please specify whether you wish to see color or black and white prints.

ACADEMY FILMS
P.O. Box 3088 • Hollywood, California
MEMBER OF ALLIED INDEPENDENT PRODUCERS

Look to Academy Films for only the best in Educational Motion Pictures

NARCOTICS

Help Your Community to understand the problem!

"H" — The story of a Teen Age Drug Addict.
2 reels—B&W—16mm $100.00

Preview prints available on payment of a $5.00 service charge which will be remitted if film is purchased within 60 days of date of preview.

Young America Films

18 EAST 41st ST., NEW YORK CITY

COMPLETELY *Modernized* SOUND RECORDING SERVICES

now available to producers of 16 mm Business—Educational—and Religious Films.

SYNCHRONOUS ¼" MAGNETIC TAPE RECORDING CHANNEL

16 mm MAGNETIC FILM RECORDING CHANNEL

16 mm MULTIPLE TRACK DIRECT-POSITIVE RECORDING CHANNEL

SIX CHANNEL MIXER FOR RE-RECORDING from ¼" Magnetic Tape—Magnetic and Photographic 16 mm Films, Synchronous Disc Recordings.

GEO. W. COLBURN LABORATORY, INC.

164 NORTH WACKER DRIVE, CHICAGO 6, ILLINOIS

Edge-Numbered Work Prints—Color Masters—Duplicate Negatives—Release Prints

UNESCO Conferees Want Films On Human Rights and Education

♦ Wider application of films as a medium for championing human rights and basic education on the world scene was urged at a UNESCO-sponsored gathering of 34 a-v specialists from 15 countries, in Paris, April 2 to 7. Popularizing science and making more generally known the aims and work of the United Nations and its Specialized Agencies were other recommendations.

L. C. Larson, director of the Audio-Visual Center of Indiana University, headed one of the sub-commissions. Others were directed by Arthur Elton, of the Film Centre of London, and Giovanni Gallarati, of INCOM, Italian newsreel agency. Henri Claudel, of the French Ministry of Foreign Affairs, was general chairman; Mohan Bhavnani, department of information and broadcasting of the Government of India, was vice-chairman.

Two international agencies and nine international non-governmental agencies were represented at the gathering, which included educators, officials of governmental film organizations, and private producers and distributors.

The conferees voted to ask their governments to ratify the agreements on free international circulation of a-v material and its exemption from tariff restrictions.

* * *

EBF Has Special Deal to Exchange Dated Print for Revised Version

♦ An offer to exchange revised version prints for originals, plus $16 a reel to cover print and handling costs, is being made by Encyclopaedia Britannica Films, Inc., Wilmette, Ill., to clear the field of outdated science materials. All films are reviewed periodically and minor or major revisions made as needed to maintain authenticity. When a film has outlived usefulness it is withdrawn from the EBF library and only replacements are provided until all prints are worn out.

The six following subjects have had major revision: *Safety in the Home, Sound Waves and Their Sources, Fundamentals of Acoustics, Irrigation Farming, Electrostatics and Tuberculosis.* The following three have been given minor revision: *The Frog, Using the Bank,* and *Arteries of the City.*

RICHARD BROWER . . . *who heads audio and visual education activities in the Minnesota State Department of Education at St. Paul. His project report on tape recording is due soon and some of its key findings are summarized on page 12.*

MAKE YOUR FILMS SCREEN BETTER

PEERLESS FILM TREATMENT MAKES FILM LAST LONGER

PEERLESS treated films have:
. . . fewer scratches
. . . less dirt
. . . clearer sound

When you order film, specify: "PEERLESS Film Treatment."

Over 30 places to serve you conveniently. Write for "Where They Are!"

PEERLESS FILM PROCESSING CORPORATION
165 WEST 46TH STREET, NEW YORK 19, N. Y.
959 SEWARD STREET, HOLLYWOOD 28, CALIF.

See & Hear NEWS LETTER

American Heritage Hour to Open ALA Pre-Conference Workshop

♦ Demonstrations of child and adult audio-visual materials and special attention to Our American Heritage in films and exhibits will share with the showing of new audio-visual materials in providing two full days of practicable presentations July 7 and 8 at the Pre-Conference A-V Workshop of the American Library Association at the Palmer House in Chicago.

The American Heritage hour starts activities on Saturday, July 7, with the screening of *Mount Vernon in Virginia* and *Lincoln Speaks at Gettysburg*, a special exhibit by the Chicago Historical Society and its director, Paul Angle, including rare books, original manuscripts and museum objects, and a film list prepared by a special committee.

Show Children's Materials

At mid-afternoon comes the children's materials program, with film readers by Mrs. Roberta Forsyth, teacher-librarian, Bass Elementary School of Chicago, and a story hour with recordings by Spencer Shaw of the Brooklyn public library. A feature of the joint banquet will be the presentation of two Brandon Films art subjects: *Ballet by Degas* and *Three Paintings by Bosch*.

A discussion strip demonstration, *Anna and the King of Siam*, by Eric Haight, Films, Inc., is Sunday forenoon's highlight. The adult materials demonstration in the afternoon includes a book talk on *The Quiet One* by Miss Mary Dollard of the Cleveland library. The final gathering, to view new releases, will be in the auditorium of the Chicago main library.

Local Committee Assists

On the local committee, with J. Margaret Carter of the Canadian National Film Board's Chicago office as chairman, are Ellsworth Dent of Coronet Educational Films; Ott Coelln of SEE & HEAR and BUSINESS SCREEN magazines; Dennis R. Williams, Encyclopædia Britannica Films; and Don White of NAVA.

Workshop reservations should be addressed to Patricia Blair, ALA headquarters, 50 E. Huron St., Chicago 11, with checks made payable to the American Library Association.

The Workshop fee is $3.00; tickets which include the combined A-V Workshop and Book Workshop banquet are $4.75.

Walter Colmes, New Chief of EBF, Made His First Feature Film at 23

♦ Walter Colmes, whose Emerson Films Corporation last year produced 109 reels of educational sound films, is the new president of Encyclopaedia Britannica Films, Inc. C. Scott Fletcher had relinquished the position when he joined the Ford Foundation.

Colmes, now 34 years old, made his first full length motion picture at 23 and as one of Hollywood's youngest producers turned out 40 features before organizing the Emerson company four years ago, specializing on a series in sound on American statesmen, explorers and authors.

Born in Boston May 9, 1917, son of Dr. A. Colmes, allergy specialist, EBF's new president was educated at Wisconsin University and Northeastern University. He was in public relations work before entering motion pictures and for a year was assistant to Hedda Hopper.

A farewell luncheon in honor of retiring president Scott Fletcher was held by the Chicago Film Council on Monday, June 11.

CLYDE K. MILLER
now heads Ohio's A-V Program

Clyde K. Miller Becomes State A-V Director for Ohio; Notes Goals

♦ A comprehensive plan to expand and intensify the audio-visual services of education throughout Ohio is being undertaken in July by Clyde K. Miller, since 1942 supervisor of a-v education for the school system of Gary, Ind., and now assuming his new duties as director of a-v education for the State of Ohio. Following are Miller's five objectives as he outlined them exclusively for SEE & HEAR MAGAZINE:

Application of all a-v instructional materials and devices to the educational program of the schools of Ohio; special attention to progress in underdeveloped areas; encouragement of wise selection of the a-v instructional tool from the many types available; most effective use of materials, and supervision of the film and slidefilm exchange.

Miller brings to the new post wide recognition for his contributions to audio-visual education as an organizer, writer and speaker. It was in Ohio, after teaching successively at Bowerstown, Hopedale and Ashtabula, that he became in 1937 the director of visual education for the schools of Dover. The Dover high school produced *Jack Finds a Way*, bicycle safety film, as part of a project of Ohio State University.

He organized the first visual education departmental meeting for the Eastern Ohio Teachers Association convention in 1939, and the first Eastern Ohio a-v educational conference two years later. He helped school groups in the central eastern area to form their visual education departments, and assisted Dr. Edgar Dale at Ohio State University in the summers of 1939 and 1940.

Miller's services since 1942 as Gary's a-v supervisor were interrupted by Navy duties as a communications and visual education officer during the war. His organizational work in Indiana includes the establishment of the a-v section of the Northwestern Indiana Teachers Association.

Among his many writings are a

chapter on operator organization and training for Ohio State University's "The Administration of Visual Aids" and articles in SEE & HEAR in January and March last year.

Kellock Named Text-Film Department Production Manager of McGraw-Hill

♦ Alan Kellock, named production manager of McGraw-Hill's Text-Film Department, will be responsible for research and production of all motion pictures and filmstrips of the department under a redistribution of administrative functions to define duties of overall management, film production and sales promotion, according to Albert J. Rosenberg, manager of the department. Kellock, assistant to the manager for five years, has supervised production of many of the textbook-correlated films.

David E. Strom, previously utilization specialist, takes charge of all sales activities of the department, including customer sales promotion and coordination with other McGraw-Hill sales departments.

William J. Maher has been appointed office manager, a new post in the department, to coordinate office operations and customer service procedures.

Roy Marshall Educational Director Of Philadelphia WFIL & WFIL-TV

♦ Dr. Roy K. Marshall, whose comments and demonstrations on NBC's "The Nature of Things" have helped place him among leaders in teaching by television, has begun new duties as the educational director of WFIL and WFIL-TV, Philadelphia, with supervision over all programs for instruction at home and in school. He succeeds Dr. Armand L. Hunter, named director of television development and research at Michigan State College.

The WFIL-TV University of the Air, adult education series given first honor in television by the Alfred I. duPont Awards Foundation, is a chief assignment of Dr. Marshall, whose TV activities began while he was associate director of the Franklin Institute Museum and director of the Fels Planetarium. His book, "The Nature of Things," is to be published this summer. He holds the Naval Ordnance Development Award for his work during the war and the Gold Medal "Share Your Knowledge" Award of the Printing House Craftsmen's Philadelphia chapter.

A-V News Around the Nation

ALABAMA:

♦ The University of Alabama Audio-Visual Service has added 360 new Coronet films to its library of 16mm sound motion pictures, providing a near-at-hand source of these educational productions for schools, churches and other training institutions. Write Dr. James F. Caldwell, director, for Coronet's complete catalog.

CALIFORNIA:

♦ Cooperative effort in the promotion and interpretation of audio-visual service is the springboard of 1951 activities of the Audio-Visual Education Association of California, of which Raymond E. Denno of San Diego is president.

The seven committees carrying out the program of the state association, and their chairmen, are:

Finance committee, Rex Hansen of the Northern Section; distribution of audio-visual materials, Harvey McCammon, San Joaquin; local production, Marie Devoe, Central Section; teacher education, Fred Harcleroad, Southern Section; research, Gardner Hart, Bay Section; audio-visual service personnel, John Fetz, Northern Section; publication and membership, William Allen, Southern Section; and nominations, Mary Louise Zingham, Bay Section.

Cooperative effort for the improvement of instruction was the subject of Dr. Walter R. Hepner, president of the San Diego State College, at the State Conference of the A.V.E.A., held jointly with the California School Supervisors Association, San Joaquin Section, in February.

CONNECTICUT:

♦ The reactions of pupils determine the value of instructional materials and "whatever reactions the materials elicit, that make the youngsters feel good, describe what they are learning." Dr. Stephen M. Corey of Columbia University told 250 educators at the annual conference of the Connecticut Audio-Visual Education Association, held at the University of Connecticut, with President George Ingham presiding.

Dr. P. Roy Brammell, dean of the University of Connecticut School of Education, declared that effective use of a-v materials "is an aspect of overall teaching competence" and that the materials themselves "must be made to stand up under research."

Discussion leaders were: Max R. Brunstetter, a-v building coordinator group; Dr. Samuel B. Gould, radio and TV section; Reign S. Hadsell, motion picture utilization; and Joseph T. Nerdon, problems of physical facilities. Summarizers included Louise Whaley, Richard Morton, Jay Tyrrell, Lawrence Spencer, Marion McHugh and Joseph Senechal.

Richard Morton of West Hartford was elected president; Leo Rosenfeld, Fairfield, vice president; Dorothy Maclean, Weston, secretary-treasurer, and Mildred Abbott, New London, recording secretary.

In charge of arrangements was Carlton W. H. Erickson, director of the a-v aids center at the university.

INDIANA:

♦ L. C. Larson, director, Audio-Visual Center of Indiana University, was one of a committee of twenty a-v specialists from fifteen countries who met April 2 to 7 at the UNESCO House in Paris.

Conference at Indiana U. in July

♦ Directors, teachers and administrators will get together on the Indiana University campus July 12-14 for an A-V Education Conference on the improvement of teaching. Workshops will cover eight fields: material selection for secondary and elementary classes, preparation of graphic and photographic materials, administration of city, county and college programs, and the use of the tape recorder.

Dr. James McPherson, executive secretary of the N.E.A. Department of A-V Instruction, will speak on curriculum implications and will serve on panels on organization problems and trends. Director L. C. Larson of the university's A-C Center will lead several discussions and Vice President Dennis Williams of the Encyclopaedia Britannica Films will address the dinner gathering July 13th. For registration at the conference, which comes in Dedication Week for the new Education Building, write Miss Carolyn Guss, Indiana University, Conference Coordinator.

Radio Conference Opens August 2

♦ Planning and operating low-power educational stations and producing quality programs using school talent

will be the lead-off subjects for discussion at the Fifth Annual Conference on Radio in Education August 2 and 3 on the campus of Indiana University at Bloomington.

High school students interested in radio are invited to the conference in addition to teachers and school administrators, according to George C. Johnson, director of educational programs of the department of radio at the university and chairman of the conference.

Specialists in government, education and commercial radio will lead clinic and workshop sessions on setting up, staffing and programming the low-power FM station; production standards; getting radio started in the schools; studio equipment and uses; continuity writing, use of the tape recorder, writing the variety show and the documentary, and radio pronunciation.

For advance registration blanks write: Director of Radio Educational Programs, Radio Station WFUI, Indiana University, Bloomington, Ind.

IOWA:

♦ Tape recordings, television in the public schools and a panel on advancement of the a-v program highlighted the March 10 meeting of the Audio-Visual Education Association of Iowa, held at Iowa State College in Ames.

Ed. Lorenz of Dubuque is the new president; Amos Claybaugh, Davenport, vice president; Robert L. Paulson, Oskaloosa, secretary; and Don Scott, Fort Dodge, treasurer.

MASSACHUSETTS:

♦ Public relations for education was the center of interest and activities at a meeting of the Massachusetts Teaching Aids Society March 30 at the Boston University School of Public Relations and Communications. The need for better community understanding of education's aims and problems and the use of audio-visual methods to achieve cooperation were presented by Merrill F. Norlin, executive secretary of the Massachusetts Council for Night Schools, and Virgil L. Rankin, director of the Division of Public Relations of the Boston University department.

The conferees saw the comprehensive physical layout and equipment of the department, which offers a senior college program leading to a Bachelor of Science degree and a graduate program for Master of Science, each with a major in visual communication.

Educational Film Library Association

1951 Annual Conference

July 26, 27 and 28
Hotel Sherman, Chicago, Illinois

TENTATIVE PROGRAM

Conference Theme: "Resolving Conflicts through Effective Communication"

THURSDAY, JULY 26

Afternoon Session

1:00 to 3:00 Registration, Hotel Sherman
3:00 to 3:15 Welcome by President Edward Schofield
3:15 to 4:30 Demonstration: "The Effective Use of Audio-Visual Materials in School and Community Civilian Defense"

Evening Session

7:00 to 9:00 Screening of Selected Films
W. A. Wittich, Chairman
9:15 to 10:30 EFLA Board Reception

FRIDAY, JULY 27

Morning Sessions

GENERAL SESSION: FORD LAEMMLER, CHAIRMAN

9:30 to 10:00 Keynote Address
10:00 to 10:15 Introduction of Sectional Chairmen
10:15 to 10:45 Coffee Time

SECTIONAL MEETINGS

10:45 to 12:15 "Television for School and Community Groups"
"Censorship—What About It?"
"Mechanics of Film Library Operation"
"Library-Community Film Programs—How Do You Organize Them?"

Afternoon Sessions

SECTIONAL MEETINGS

2:00 to 4:00 "What's New in Film Utilization?"
"Film Producers and Users Exchange Ideas"
"Film Production in Educational Institutions"
"Effective School-Public Library Film Programs"

Evening Session

7:00 to 9:30 Screening of Selected Films

SATURDAY, JULY 28

Morning Sessions

GENERAL SESSION: EDWARD SCHOFIELD, CHAIRMAN

9:30 to 10:00 Address: "The Role of the Administrator in the Audio-Visual Program"
Speaker: Dean John Guy Fowlkes, School of Education, University of Wisconsin
10:00 to 10:20 Summaries of Sectional Meetings by Chairmen
10:20 to 10:40 "Buzz Session" Evaluation: Clyde Miller, Leader
10:45 to 11:30 Annual Meeting of EFLA

Afternoon Program

2:00 Opening of NAVA Trade Show

Evening Session

7:00 to 9:30 Final Film Screening Session

CONFERENCE COMMITTEE CO-CHAIRMEN
Clyde Miller, Gary Public Schools
Charles Schuller, University of Wisconsin

Project Report on Tape Recording

QUESTION AND ANSWER SUMMARY GIVES SIGNIFICANT DETAILS ON THE FORTHCOMING REPORT ON MINNESOTA'S EXPERIMENTAL TAPE PROJECT

IN PREPARATION for early release by the Minnesota Department of Education is the summary of the findings of the Minnesota Experimental Tape Recording Project. This work has been carried on under the direction of Richard C. Brower, Visual and Radio Education Supervisor for the past twenty-one months. Funds to conduct this research were provided through an educational grant by Minnesota Mining and Manufacturing Company to the Minnesota Department of Education.

The primary concern of this project has been to devise a simplified service pattern by which outstanding radio programs could be readily available for classroom use to all Minnesota schools. Classroom use of radio has been hampered by the size of the state which makes good radio reception during the daylight hours difficult or impossible. A further and even greater limiting factor was the matter of timing broadcasts to reach classrooms at the moment when they could be of maximum classroom use.

Magnetic tape duplication seemed to offer the possibility of easily recording outstanding broadcast materials and for economically duplicating from these master recordings upon request of teachers. This concept has proved to be sound and successful beyond early expectations.

Questions raised at the inception of the experiment have been provided with some clear and specific answers. The following brief summary of some of the points raised indicates the areas to be covered in detail in the report soon to be released.

Answers to Eight Key Questions Given

QUESTION: Can radio materials brought to classrooms on magnetic tape recording be effectively used for instruction?

ANSWER: Over 12,000 duplications of broadcast materials were made at the request of schools during the 1949-50 and 1950-51 school years. Just under 2,000 were made the first school year. Teachers indicated an increased use was desired and intended in the 1951-52 term.

QUESTION: Is suitable material available for classroom use?

ANSWER: Much satisfactory material was available in English, Social Studies, History, Music, Guidance and other curriculum areas. In two years a selected library of more than 1500 master tapes has been built up. This material originated in many parts of the country, and was designed for use at all interest levels from kindergarten through college. An increasing tendency was noted for production of materials specifically for duplicating purposes particularly in foreign language and child development areas.

QUESTION: Can an entire state be served with recordings from a central agency through tape duplication?

ANSWER: All of Minnesota's 87 counties have one or more school systems that made use of the materials provided by the State Department of Education. These schools varied in size from one-teacher rural "little red schoolhouses" to large metropolitan high schools.

QUESTION: Can the cost of using radio materials on tape be low enough to be attractive and practical to schools operating on minimum budget?

ANSWER: The median cost reported by schools was slightly under one cent per pupil contact hour. This included the cost of the machine and tape, based on a three year amortization period, as well as postage. In a survey no school made any objection to this cost. The reported cost included using equipment as a recorder as well as for playback purposes.

QUESTION: What would it cost a central agency to establish and carry on a duplicating service?

ANSWER: The 1951 Minnesota State legislature appropriated the sum of $28,400 to carry on the project for the 1951-53 biennium. This is considered sufficient to provide a minimum of one million pupil hours of instruction each year and adequately serve the expressed needs of Minnesota's 20,000 teachers. This sum represents an annual per pupil cost of 2.8c to the State.

QUESTION: What type of material has received the highest acclaim of teacher and pupil?

ANSWER: In general those materials that deal with the formation of attitudes rather than those designed to teach specific facts as such have been held in highest regard. A dramatic format with interaction between a number of characters with which the pupils could identify themselves was considered to offer the maximum educational value. This type seems to obtain the most desirable classroom interaction, and offered the greatest pupil incentive for further work and study.

QUESTION: Would other areas be interested in the possibilities of such a service?

ANSWER: Queries were received from schools in each of the 48 states, most of the territories and a number of foreign nations regarding the experimental work. At least two states, Rhode Island and Oregon, are slated to serve all of their schools with a similar service supported by public funds starting in the fall of 1951. Numerous other states have been exploring various possibilities for establishing such a service.

QUESTION: What is the single outstanding characteristic advantage of tape recording in comparison to other audio-visual media that has been demonstrated by the experiment?

ANSWER: The low cost pleased administrators, and teachers and pupils alike expressed high satisfaction in the materials. These are both important, but the outstanding single factor seemed to be the ability to duplicate in sufficient quantities to suit the immediate need of any and every teacher requiring materials at a definite time. This was particularly in evidence at school holiday time. No orders had to be turned down. 75% of all orders were filled within 24 hours. No materials had to be ordered longer than a week in advance. In brief the outstanding factor of magnetic tape recorded materials is its complete availability.

"H—The Story of a Teen-Age Drug Addict"

Dare We Face These Facts?

(RIGHT) *Dr. Lester Spier (seated), for nine years chairman of the New York Medical Society's narcotic committee, discusses "H" with Larry Frisch, producer.*

JUST A FEW WEEKS ago newspaper readers in New York were horrified to learn about a confirmed case of narcotics addiction discovered in a young school boy. He was fourteen years old, had been using dope for two years.

All over the country, principally in the metropolitan centers, teachers and parents have been shocked to learn that teen-age narcotics addiction is not just something that happens in other places and to other people's children. It is a community problem, and, sadly, to some unsuspecting mothers and fathers, a family tragedy.

Shunning the Subject Doesn't Solve It

In seeking methods of attacking the problem some health authorities, civic and educational leaders have encountered an ostrich situation among not only their associates in local government and schools but the entire community. Drug addiction, it has been felt, happens only to depraved wretches and congenital criminals in the big city and the nasty subject should not be mentioned in polite society.

Although it might be true that publicity on any crime or vice can possibly create more avenues for them to travel, it is even more true that they can become an expanding, cancerous growth if a searching and intelligent public scrutiny is not turned upon them.

A discussion of why the problem should be brought into the open is germane to one effort now being made by a film producer to show a case history illustrating a typical course of narcotics' hold on a young high school boy.

The film is *H—The Story of a Teen-age Drug Addict.* It is a stark, somber, terrifying thing to see, but if the story is to be told, it is best that it be done like this: straight to the point, sordid, tough and vivid enough to be unforgettable.

No ordinary production team made the film; no ordinary producer could have made it. It is rough, lacks the smooth cinematic details of the modern documentary, but this very fact gives it power. There are some inconsistencies but they are not important. In many ways it is a tragedy in the style of the old German school of cinema and *H* is worthy of the comparison.

Larry Frisch, a producer-director in his early twenties (formerly with Caravel Films), wrote, produced and directed the film entirely on his own time, with his own sets and with young, non-professional high school actors. He shot his scenes—low key, economic, punchy photography—mostly in the Bronx, but *H* (junkie jargon for heroin) is not a picture with any particular locale—could be anywhere. Frisch spent a great deal of time researching his script, talked to addicts and ex-addicts, narcotics agents, welfare people and hospital supervisors. All this contributed to the authenticity of the subject.

It Happens Every Day Just Like This

The story tells about a young man, a leader in his school, working part time to support his mother. Through lonesomeness one night, he goes with an acquaintance to a party. It turns out to be a "reefer pad" and unwittingly he accepts a marihuana cigarette. Although it makes him sick he finds the host (actually a narcotics peddler) a

(CONTINUED ON PAGE EIGHTEEN OF THIS ISSUE)

A scene from "H" . . . the character in the car is a dope peddler; the boy outside is a "pusher."

Another scene from "H" . . . a typical youngster and his girl . . . pictured before his addiction.

★ A case study conducted by Miss Ellen Millman of Clayton, Missouri, of the classroom effectiveness of the new FILM-BOOKS* published recently as a possible answer to "more effective reading techniques in the classroom."

by Ellen Millman

First graders read the film storybook "The Fireman," before visiting the local fire station.

Film Readiness and Reading

ONE OF THE MAJOR TASKS of the growing child of today is learning words and meanings. The need to enlarge vocabulary and deepen understanding of word meanings presents a real challenge to teachers. We know the vocabulary of each child as he enters first grade is an outgrowth of his experiences and his environment. We are fully aware of the fact that first-hand learning is best in developing most concepts, yet there remain many instances where learning must be vicarious. Then instructional materials provide the nearest approach to the real experience.

Recently a group of first graders heard the siren of a fire engine as it went whizzing along a nearby street. The teacher read a poem, "The Fire Engine" by Marjorie Hardwick which led into a discussion of the work of firemen. The EBFilm *The Fireman* was secured and previewed. The children dictated several things they wished to find out when seeing the film as: How do they get people out of tall buildings? How is the hose attached to a fire hydrant? Where do the firemen eat and sleep? Do the men go to school to learn to be firemen?

We Planned Our Trip to the Fire Station

After viewing the film the questions were discussed. Since the film didn't answer all the questions, the group decided to visit the fire station and ask the firemen for help. In the meantime a film storybook entitled "The Fireman"** was presented to the children. On the first page was a picture of a hydrant, a hatchet and a helmet. Immediately the group recognized each word started alike. They were delighted to find the book contained not only pictures from the film but the same story (see picture). As each page was read to the children (beginning first graders) a discussion followed, questions were asked and answered. The last two pages of the book listed questions to test how well the children remembered as: Tell how the firemen practice with ladders. What does the fire captain do? All of the questions were answered with interest. Thirty-six words listed below the questions were used by the children in their discussion. As a result several new words were added to their speaking vocabularies as: steers, practice, overcome, ax, helmet, alarm, motor, gong and pumps.

These Were the Questions We Prepared

Before visiting the fire station the children dictated these plans for the trip (see picture): Do the men go to school to learn to be firemen? Where do they eat and sleep? Who works on holidays? How do they find out there is a fire? How do they know where to go? Also, the children wanted to hear the gong ring; to see how the hose was placed on the truck; to see the seat (where Tom Briggs sat to steer the back wheel of the fire truck in the film); to see a fireman slide down a pole, and to see the helmets and hatchets. Rules of safety were listed and discussed: Keep hands in the bus; sit on the seat; follow the guide's directions; do not touch things in the fire station. (See picture).

Upon returning to the classroom the rules of safety were read and checked, then the plans. The trip was discussed in full after which the children divided into three groups. One group looked for stories about firemen and fire engines to have read to them at story time.

Another group made a picture story of the trip (see picture). Ten pictures were drawn and colored on brown wrapping paper and captions added. The paper was fastened to two broom handles and as each picture was shown a child would tell the story of the Trip to the Fire

*D. C. Heath & Co. **By Paul Witty, a recent D. C. Heath publication.

EB Films' "A Day at the Fair" was shown.

The EB Film "The Fireman" opened the program.

Station. The third group dictated the following chart story which was printed on oak tag with an illustrated picture:

The Fire Station
We went to the fire station.
We saw two fire trucks.
We saw one ambulance.
We saw a fireman slide down a pole.
We thanked the fireman.
The fireman is our friend.

Becoming acquainted with the work of the firemen provided many rich, interesting and meaningful experiences.

Second Graders Also Improved Their Reading

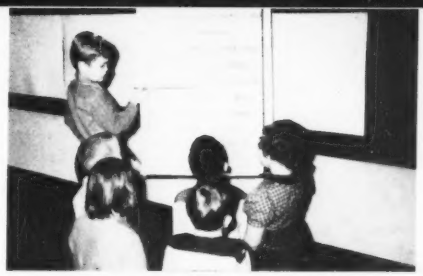
♦ Nine second graders who were having some difficulty reading with ease and understanding were invited to a first-grade room. The teacher told them she had secured a film which she thought they would enjoy seeing. The film was *Gray Squirrel*. The name was written on the board and the children told some of the things they knew about squirrels. Then they were asked what they would like to know about Gray Squirrel. Their questions were listed on the board and read: Where is his home? How does he make a home? See how he goes up and down a tree. See if he stores nuts. The film was viewed and the questions on the board discussed. Several phrases printed on strips of oak tag containing words used in the film had been previously prepared. As each phrase was held up, the group read silently, then orally (help was given when needed). Some of the phrases were: lives in an oak tree; leaves and twigs; Brother Squirrel; sniffs the cold air; on the branches; takes a nap. Then the film storybook "Gray Squirrel" by Paul Witty, and published by D. C. Heath, was presented to the group. The book was read with much interest and little difficulty. Several questions printed on oak tag were shown to the group. These were read silently, then answered. Such questions as: How old are baby squirrels when they first open their eyes? How many homes did the squirrels have? Do baby squirrels need care? What seasons did Gray Squirrel live through? Have you learned anything from the film and book? The children gave interesting answers to the questions.

The following day they again visited the first grade and this time answered the "How Well Do You Remember" questions listed in the back of the book. The thirty-six words listed below these questions were written on the board and the children told of what each word made them think. Some of the words were: woods, buds, paws, brook, autumn, safe. Then they dictated a group story of *Gray Squirrel* (see picture). This was printed on lined chart paper with an illustrated picture. The children read the chart story with ease and enjoyment, then took it to their room to read to the other second graders.

The Program Also Helped Third Graders

Eight third-graders visited the same first-grade room and were quite anxious to know the reason for the invitation. They were asked if they would be interested in seeing a new film and then tell the other third graders about it. Immediately everyone wanted to know the name of the film. *A Day at the Fair* was written on the board, and the teacher told the group this was the film they would see. She then asked what the word "Fair" meant. Since the group had previously read a short story about a fair.

(CONTINUED ON THE FOLLOWING PAGE)



We prepared these questions about firemen . . .

Then we visited the fire station for answers.

Our plans included the important safety rules.

Second graders wrote about "Gray Squirrel" after seeing the film by that title and discussing it after the class showing.

The film storybook on "A Day at the Fair" was read aloud as part of the reading readiness project described in this article.

(CONTINUED FROM THE PRECEDING PAGE)
they gave the meaning. They were then asked what they would like to look for in the film. As they dictated, the statements were written on the board: See what animals are at the fair. See what crops are taken to the fair. See who goes to the fair. See what the people do all day at the fair. After viewing the EBFilm *A Day at the Fair*, the children discussed what they were to look for. The following phrases were written on the board, read and discussed: the fairgrounds; getting their calves ready; the big cattle barn; the exhibit; the judge; bring picnic lunches; a jet plane; the grandstand; the big Ferris Wheel. The film storybook, "A Day at the Fair" by Paul Witty and published by D. C. Heath, was introduced.

The children read the first half of the book (see picture) with ease, then answered the eight questions listed in the back about Morning at the Fair and answered the eight questions listed under How Well Do You Remember. They were delighted to know they had remembered enough to answer all the questions. The thirty-six words listed below the questions were printed on tagboard strips and flashed before the children. They not only recognized the words but told how they were used in the film and book. Some of the words were: model rooms, vegetables, 4-H club, horse race, Ferris wheel, arena, parade, midway, canning, fruits. Several questions written on tag board were likewise flashed before the group. The children read silently, then orally and answered such questions as: What did the Olsens take to the fair? How did the judge know which cake was best? Where did the people eat lunch? What did the Olsen family see at the fair? Where is Missouri's State Fair held? Have you learned anything from seeing the film and reading the book?

Follow Up Experiences Help Learners

At the end of each class period the children participated in an evaluation of each film and the film story book. One first-grader said hearing the story two times helped him remember it. He couldn't remember all that happened when seeing the film as it went so fast. Hearing the story read afterwards helped him learn more. A third-grader felt she learned new words by hearing the words in the film, then knew them in the book, as Olsen and exhibit, while a second-grader said reading the book "Gray Squirrel" was fun after seeing the film. It made the story more interesting and she knew most of the words. Another second-grader said he would enjoy reading the books days or weeks later if he had forgotten something, but you couldn't always see the film when you wanted to or needed to recall something.

After using the films and film storybooks with these second and third grade children, we believe it is a very effective way to increase children's mastery of reading. We found the attention span was much longer than when reading from a text. Also, the children were anxious to read on and complete the story although there were twenty-seven pages in each book. The familiar pictures appealed to the children.

These films and film storybooks not only provided information but opened other avenues of expression through drawing, rhythms, poetry and dictating experience record stories. The children get satisfaction from these experiences. They were encouraged to use new words to express what they had experienced and there was much opportunity for meaningful oral language activities.

Improving Our Mental Health

NATIONAL INSTITUTE RELEASES "ANGRY BOY"

Sponsor: The National Association for Mental Health. Approved by the National Institute for Mental Health, Public Health Service, Federal Security Agency.

Title: *Angry Boy*, 33 min., 16sd.; produced by Associated Film Producers, Inc., for the State of Michigan; directed by Alexander Hammid; story by Irving Jacoby.

★ The featuring of *Angry Boy* in Mental Health Week was a tribute to a job of writing and directing that must have reached the target of public interest in the recent national concentration on the problems of the emotionally unstable. Second in the Mental Health Film Board Series on Emotions of Everyday Living, this production, following *The Steps of Age*, pauses at the first rungs of the ladder of years.

Professional psychiatry goes to work in the Huron Valley Child Guidance Clinic in Michigan to unravel the emotions of a youngster entangled in a four-cornered domestic feud. There's the mother with her frustration—precipitated headaches, the nagging grandmother, the husband cheated out of a promotion because he lets the wife rule his destiny into defeatism.

The child, in the middle, indicts all grownups as instruments of punishment and, friendless in school and out, tries to take it out on them with acts of hatred, including an ill-fated theft of money from the teacher's purse.

At the Guidance Clinic, with the aid of a study of the youngster's drawings, and questionings of the mother, the latter begins to understand her own shortcomings and the lad gradually is converted to confidence in himself and others.

The treatment of the theme is consistent and the several complicating factors are resolved plausibly and simply, avoiding the trap of diffusion in which films on psychiatry so easily become enmeshed.

The Mental Health Authority of your state is the one to address for loan of print. Rental is through local educational film libraries, purchase exclusively through the International Film Bureau, 6 No. Michigan Ave., Chicago 6.

A scene from the motion picture "Angry Boy"

The Girl Scouts present "The Growing Years"

Girl Scouts of America Pictures "The Growing Years" for Youth

★ As American as the American way of life itself is the history of the Girl Scout movement and the social credo for which it stands. Any chronicler of the growth of our republic and its many facets of democratic action through voluntary cooperation for the good of all would be remiss without a chapter on Girl Scouting.

The National Organization, alive to the potentials of the screen medium for its educational program to reach the public through the schools, Parent-Teacher associations, churches and civic groups, as well to train the membership, has made successful use of motion pictures and filmstrips over the years.

Seventh of Girl Scoutdom's motion pictures is *The Growing Years*, aiming its appeal to girls who have moved with their parents into a new community. How membership in a troop helps them not only to develop individually but also to make a swift transition from being strangers is brought out in a 20-minute black-and-white production with Henry Fonda doing the narrative and two youthful Scouts from New Rochelle, N. Y., playing feature roles. William Resnick was the director. Distribution is by Association Films, 347 Madison Ave., New York City 17 and offices in Chicago, San Francisco and Dallas.

Two of the earlier productions present the wider influence of the movement toward breaking down international barriers to common understanding. One of these, *World Friendship* (19 min., color, rental $4.25, purchase $120), shows youngsters from Brazil, Canada and the United States learning about one another and their countries by working and playing together. The other, *Girl Scouting Returns to Japan* (10 min., color, $3.75 and $95), has educative scenes of native crafts besides the rebuilding of a troop and its ties to American girls through correspondence.

A camping subject, *Camping for Girl Scouts* (17 min., color, $4.25 and $120), emphasizes health and safety standards as well as the fun and adventure that follow a community parent group's planning of both day and permanent building camps.

For information regarding these six motion pictures and the seven filmstrips made for the training of local administrators of Girl Scouting, write the Girl Scout Visual Education Service, 155 East 44th St., New York City 17. ★

Training for Defense Needs

AN EDITORIAL FOREWORD BY FLOYDE E. BROOKER

SUMMER 1951, and again we mobilize. Once more we gather our strength and prepare for a struggle in our national defense. We hope the struggle will never come, but we must prepare lest it come and find us not ready.

Mobilization will mean a repetition of many things familiar from our previous experience. We may expect a growing shortage of critical materials, and a growing shortage of skilled manpower. The answer to the shortage of skilled manpower, now as then, will be training, the most effective and efficient training possible in order that no production line need be stopped because the trained hands are not ready.

This time we have the experience of 1940-45 to guide us. This time we can do a better job because we are more nearly ready.

Films played an important role in the training period of ten years ago. Then, they had to be produced. We knew very little of what they could do, and how they help. Hundreds of training films were produced, and thousands of instructors used them in their training courses and millions of men in the armed forces and in industry had the experience of learning from films. The men who were experienced in the training of workers have attested to the values of these training films in speeding up the training, and in the providing of effective training. Many have witnessed the contribution these films made in the period of 1940-1945.

The Office of Education training films were produced during this period. They were made under the supervision of individuals skilled in the field of training. The majority of this list of films were produced on the basic skills. The skills and processes they depict are as timeless as the machines themselves. The great majority of these films are as valid today as they were then, and can be as useful today as they were in industrial training in the mobilization of a decade ago.

These films offer the same assistance today to the individuals responsible for the training of the men and women who will keep the production lines moving in the days to come. They provide for an authoritative skillful presentation of the facts, the operating steps, the terminology, the safety measures necessary for many basic operations. They cover operations in the machine shop, welding, sheet metal working, foundry work, pattern making and engineering principles. Each of these motion pictures (with the exception of those dealing with the problems of supervision) has an accompanying filmstrip and instructor's manual. The three, the sound motion picture, the filmstrip, and the manual were produced as an integrated unit of instructional material with each complementing and strengthening the other. ●

A NATIONAL DIRECTORY OF VISUAL EDUCATION DEALERS

EASTERN STATES

• DISTRICT OF COLUMBIA •

Brenner Photo Co., 933 Penn Ave. N.W. The complete Photo Dept. Store.

Jam Handy Organization, Inc., Transportation Bldg., Washington 6.

• NEW HAMPSHIRE •

A. H. Rice Co., Inc., 78 West Central Street, Manchester.

• NEW JERSEY •

Slidecraft Co., South Orange, N. J.

• NEW YORK •

Association Films, Inc., 35 West 45th St., New York 19.

Council Films, Inc., 50 N. Main St., Homer, N. Y.

Jam Handy Organization, Inc., 1775 Broadway, New York, N. Y.

Visual Sciences, 599SH Suffern.

• PENNSYLVANIA •

Jam Handy Organization, Inc., 930 Penn Ave., Pittsburgh 22

Karel Sound Film Library, 214 Third Ave., Pittsburgh 22.

SOUTHERN STATES

• FLORIDA •

Norman Laboratories & Studio, Arlington Suburb, Jacksonville 7.

• LOUISIANA •

Jasper Ewing & Sons, 725 Poydras St., New Orleans 12.

• MISSISSIPPI •

Jasper Ewing & Sons, 227 S. State St., Jackson 2.

• TENNESSEE •

Southern Visual Films, 686-689 Shrine Bldg., Memphis.

MIDWESTERN STATES

• ILLINOIS •

American Film Registry, 24 E. Eighth Street, Chicago 5.

Association Films, Inc., 206 S. Michigan Ave., Chicago 3.

Jam Handy Organization, Inc., 230 N. Michigan Ave., Chicago 1.

Swank Motion Pictures, 614 N. Skinker Blvd., St. Louis 5, Mo.

• IOWA •

Ryan Visual Aids Service, 517 Main St., Davenport.

• MISSOURI •

Swank Motion Pictures, 614 N. Skinker Blvd., St. Louis 5, Mo.

• MICHIGAN •

Jam Handy Organization, Inc., 2821 E. Grand Blvd., Detroit 11.

• OHIO •

Academy Film Service, Inc., 2300 Payne Ave., Cleveland 14.

Sunray Films, Inc., 2108 Payne Ave., Cleveland 14.

Jam Handy Organization, Inc., 310 Talbott Building, Dayton 2.

WESTERN STATES

• CALIFORNIA •

Coast Visual Education Co., 5620 Hollywood Blvd., Hollywood 28.

Jam Handy Organization, Inc., 7046 Hollywood Blvd., Los Angeles 28.

Association Films, Inc., 351 Turk St., San Francisco 2.

• OREGON •

Moore's Motion Picture Service, 306 S.W. 9th Avenue, Portland 5.

• TEXAS •

Association Films, Inc., 1915 Live Oak St., Dallas 1.

Audio Video, Incorporated, 4000 Ross Avenue, Dallas 4, Texas.

George H. Mitchell Co., 712 N. Haskell, Dallas 1.

• UTAH •

Deseret Book Company, 44 E. So. Temple St., Salt Lake City 10.

CANADA

Audio-Visual Supply Company, Toronto General Trusts Building, Winnipeg, Man.

New Film Hits Teen-Age Addiction:

(CONTINUED FROM PAGE THIRTEEN PRECEDING)

friendly fellow and gradually comes under his influence, begins using marihuana as a daily habit. From this beginning he finds one day that he could use something more potent, tries a syringe of heroin from the peddler's bathroom cabinet. Addiction to heroin can be caused by only a few shots (much more rapidly than with other drugs), even in less than a week, and soon the boy is "hooked." After this situation, that he had no desire to get into, the boy is discovered and is seen suffering the agonies of withdrawal on a hospital bed. When he leaves the hospital, withdrawn from the drug but lonesome and desperate, it is only a few hours before he is preparing another needle. He doesn't use it, as the film turns out, instead is seen calling welfare officers to come help him. This hopeful note is possible in actuality, but not probable. Unfortunately the great majority of withdrawn addicts are thoroughly "hooked" again in less than a week after leaving the hospital.

Praised by Welfare and Medical Officials

Nevertheless, as a tool in stamping out sources of addiction, understanding the seriousness of the problem and lending support to new drives (such as the American Legion's) to secure new hospitals and psychiatric treatment centers, *H* can be of incalculable value. Although some officials of the Narcotics Bureau frown on exposing the problem through film (too realistic), welfare and medical officials find much in the picture to praise. James R. Dumpson, Consultant of the Welfare Council of New York City, has commented: "The educational value of the film and its object lesson are excellent. It is skillfully executed." The film has also been endorsed by Dr. Lester Spier, former Chairman of the New York Medical Society's Narcotics Committee.

Young America Selected as Distributor

With a picture as sensational as *H*, Frisch, who is most serious about what his film can do to alleviate the narcotics problem, wisely brought it to a distributor who would not capitalize on sensationalism at the expense of public benefit. Young America Films has contracted to handle the picture through its nationwide distribution system and prints of the 17 minute subject (b&w) are available at $100 with the accompanying discussion guide. YAF, though it cannot specify how buyers will use a film, strongly urges that it be shown only to serious audiences prepared in advance for the film and ready to discuss it after the showing. To discourage casual showings, Young America Films will provide preview prints only for a $5 fee (though this may be credited to the purchase price). It should be particularly useful for PTA, school staff, civic or industrial relations groups in communities where the narcotics problem exists or is recognized as a possible menace to the community.

The Problem Is of Widespread Concern

That it is a menace is becoming more apparent every day. In New York it is estimated that narcotics is the chief cause of teen-age crime. It can no longer be called merely juvenile delinquency, either, for as one young addict pitifully explained, "If I had to, I'd kill my mother for a fix."

USE THIS DIRECTORY TO LOCATE THE BEST IN EQUIPMENT, FILMS AND A-V SERVICE

The First Complete Film Reference In This Field!

THE FARM FILM GUIDE

RURAL AMERICA has been waiting for this first complete film guide to the hundreds of 16mm motion pictures and filmstrips already available for farm group meetings, vocational agriculture schools, county agent and home extension classes, and for rural organizations such as the Granges, 4-H and Future Farmer Clubs, Co-operatives, and Farm Bureaus.

Over 1,000 free, rental, and low-cost films are listed in every agricultural interest field from Apple Growing to Weed Prevention. A master source list gives sponsors, producers, and government film library sources.

This helpful basic reference will enable farm groups and schools to plan regular scheduled film programs; to get and keep modern audio-visual projection equipment constantly in use throughout the showing seasons.

Every group, every school, every farm equipment supplier can use one or more copies of the Farm Film Guide. Order your copies today; liberal discounts on quantity orders for field distribution.

Includes Over 1,000 Films and Sources in These Fields:

Agriculture Abroad
American Farm and Home
Agriculture in the South
Farm Housing Films
Farm Modernization
Food Preparation
Food Preservation
Films on Nutrition
Farm Work Efficiency
Fences and Outbuildings
Coops and Credit
Farm Communications
Rural Electrification
Safety on the Farm
Rural Youth Films
Soil and Water Conservation
Wild Life Conservation
Our Forest Heritage
Orchard Crop Films
Farm Field Crops
Science and Agriculture
The Farm Garden
Grain Crop Films
Insects—Plant Diseases
Distribution—Marketing
Livestock Care—Feeding
The Dairy Farmer
Poultry Raising Films
Mechanized Agriculture

ONLY FIFTY CENTS PER COPY

(Write for liberal discounts on quantity orders)

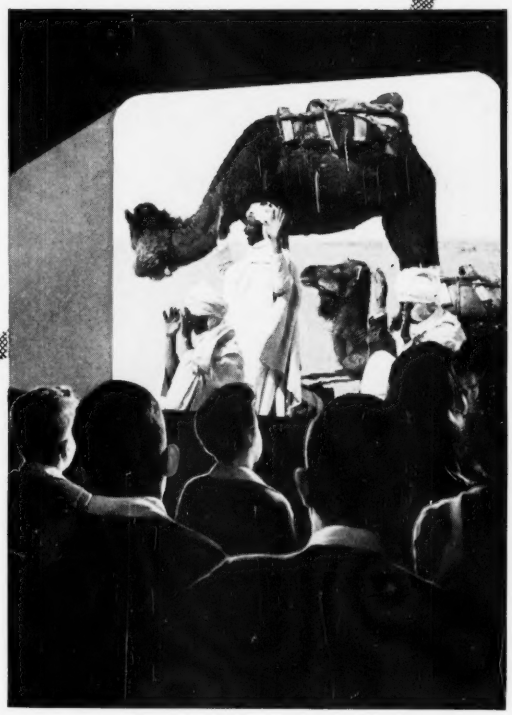
AUDIO-VISUAL GUIDE LIBRARY

150 East Superior Street • Chicago 11, Illinois

PUBLISHERS OF THE INDEX OF TRAINING FILMS • SAFETY FILM DIRECTORY
SPORTS FILM GUIDE • PROJECTIONIST'S HANDBOOK • SALES FILM GUIDE

FILMOSOUND
proves its worth in Denison!

When the Denison, Texas, Schools decided to purchase new projectors, selection was an easy matter. They looked at the record of the one they had used for 12 years—a Filmosound. Its fine performance and minimum maintenance plus the fact that it still is completely satisfactory caused them to choose Filmosound again.

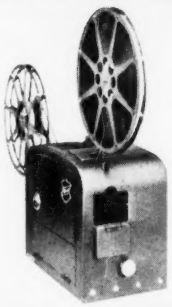


There is little debate these days about the value of movies as an educational aid. It is also agreed that nowhere is good, unobtrusive projection more essential than in the classroom.

The Filmosound will answer all your requirements . . . will give you trouble-free performance at low maintenance cost throughout its long lifetime. Its faithful sound reproduction and clear-as-life pictures capture and hold pupil interest. And Filmosound is wonderfully easy to operate . . . runs both sound and silent films.

Ask your Bell & Howell Special Representative to show you the sound film, "The Show Must Go On." It describes the features a projector should have for optimum performance in the classroom.

Guaranteed for life. During life of the product, any defects in workmanship or materials will be remedied free (except transportation).



Single-Case FILMOSOUND

Precision-built for most hours of trouble-free projection time. Reverse. Still picture. Full, natural sound. Now equipped with new Super Proval lens for even sharper picture. Built-in 6-inch speaker operates within the case or removed from it. Larger, separate speakers available for single or multiple use as desired. With 6 inch speaker, $449.95.

You buy for life when you buy Bell & Howell

7184 McCormick Road, Chicago 45

The Audio-Visual

Projectionist's Handbook

A Pictorial Manual
for the Guidance of the
Student Operator in Schools,
Industry and the Community

This Copy Belongs to

_____

The Audio-Visual

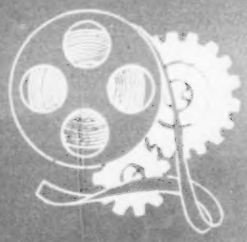
Projectionist's Handbook

TO YOU THE PROJECTIONIST

The projectionist is an important link in the teaching and learning process. Upon you will depend how well the aid is shown. No matter how good the photography or how valuable the aid is educationally, a good deal of its value may be lost if it is given poor handling in projection. You must know your job well if you are to show the aid efficiently. Skill in handling the equipment and the techniques of good showmanship can only be acquired by constant study and practice. Remember the best projection goes unnoticed while poor projection is marked by distractions and interruptions, all of which disrupt the class. By learning your job thoroughly you can help the instructor to use audio-visual aids more effectively.

Amo De Bernardis, Supervisor
Audio-Visual Education
Portland (Ore.) Public Schools

Entire Contents Copyright 1950 by Audio-Visual Publishing



In This Handbook

★ ★ ★

SCREEN SELECTION
FOR GOOD VIEWING

★ ★ ★

DESIGNS FOR
VISUAL EDUCATION

★ ★ ★

SCREEN TABLES

★ ★ ★

TRENDS IN PREVIEW ROOMS

★ ★ ★

Section One

The Projectionist's Job
Before the Showing
Starting the Picture
During the Showing
Ending the Picture
After the Showing
Projector Care
Lubrication
Splicing
Film Care & Maintenance
Types of Film Damage

★ ★ ★

Section Two

THREADING DIAGRAMS
TYPES OF 16MM PROJECTORS

★ ★ ★

Section Three

FILMSTRIP PROJECTION
SOUND FILMSTRIP PROJECTOR
STILL PICTURE TIPS
TYPES OF STILL PROJECTORS
RECORDINGS

★ ★ ★

PROJECTIONIST'S TROUBLE CHART
PROJECTIONIST'S CHECK SHEET

Sight & Sound Paths to Learning

MORE THAN 100,000 16mm sound motion picture projectors and nearly twice that number of silent and sound filmstrip projectors among schools, churches, farm and urban groups, professional, business and industrial owners give evidence that audio and visual methods for achieving "more learning in less time" are widely accepted and practiced.

The millions of linear feet of safety film stock now being used for informational and educational purposes alone are a further example that this is truly a "Visual Age." The printed word remains the basic means of idea communication but this complex world of swiftly-moving social, political and economic events gives evidence that "books are not enough" to keep us informed. The lighted screen, in natural color or monotone, accompanied by mechanical sound or by the spoken narration of a skillful teacher, is helping to bring the knowledge and understanding mankind so urgently needs to keep abreast of the times.

The finest sound motion picture, intelligently created and skillfully produced for its specific purpose, is no better than its presentation on the screen. Young projectionists in the school, salesmen in the field, teachers, trainers, service men, doctors, preachers, and executives — all these hold the future of our films in their hands as the operators of projection equipment. To help prepare and improve their skills and thus to increase the effectiveness of all sight and sound media, we have prepared this visual Handbook. — OHC

★ ★ ★

Acknowledgements: Our co-editor of this Handbook is Amo DeBernardis, Supervisor of Audio-Visual Education in the Portland (Ore.) Public Schools. Graphic illustrations were originally prepared by John Thorne of the Graphics Division, National Film Board of Canada.

Q What ARE the AUDIO-VISUAL MATERIALS?

1. MOTION PICTURES

Informational, educational and training films for business, church or school use are distributed in 16mm sound-on-film size. This non-inflammable film has no fire hazard. It will be mutilated on *silent-only* type home equipment, so use only on standard makes of sound projectors.

2. FILMSTRIPS (SLIDEFILMS) AND SLIDES

Filmstrips or slidefilms are rolls of still pictures, 35mm in width, to be projected successively with the text in titles on the film or with a sound recording on an accompanying disc (sound slidefilms). *Slides* are made in standard sizes of 2" x 2" or 3¼" x 4¼".

3. RECORDINGS

Educational, music, or business material may be reproduced on either normal speed (78 rpm) or slow-speed (33⅓ rpm) discs. Most commercial recordings are of the 12", 78 rpm type; sound slidefilm transcriptions are generally made on slow-speed 33⅓ rpm discs of the 16" size. The new microgrove recordings which carry the equivalent of 4 standard (78 rpm) records on each side of a 12" disc are also of the slow-speed 33⅓ rpm type. A special playing arm is required. Tape and wire reproducers are also being widely used for recorded classroom material.

4. OPAQUE, CHART AND PICTURE MATERIAL

Diagrams, maps, technical data, etc. may be projected on opaque type equipment or used by means of "flip charts", exploded views, or in blow-up sizes for classroom purposes. Photostats and gravure enlargements are widely useful.

5. MODELS, MOCK-UPS AND DIORAMAS

Mechanical devices, engineering and other technical objects etc., either too small or too large to be seen, may be demonstrated by means of 3-dimensional models, cutaways, and solid models. Dioramas help visualize historical or geographic scenes, technical situations, etc.

Q Why USE AUDIO-VISUAL MATERIALS?

1. LEARN MORE

Tests show that students and trainees learn more in a given time. They are more attentive while watching a sound film (81.7%) as compared to only 54.6% of attentiveness while listening to lectures.

2. REMEMBER LONGER

Facts learned with the assistance of sight and sound aids, under the supervision of a good instructor, have been retained up to 55 percent longer, according to tests by the armed forces.

3. INCREASE INTEREST

Sound films and other sight and sound aids help prepare the learner and familiarize him with the scope of the lesson. Tests have shown that this preparatory advantage increases interest and confidence.

4. MAKE TRAINING AND INFORMATION UNIFORM

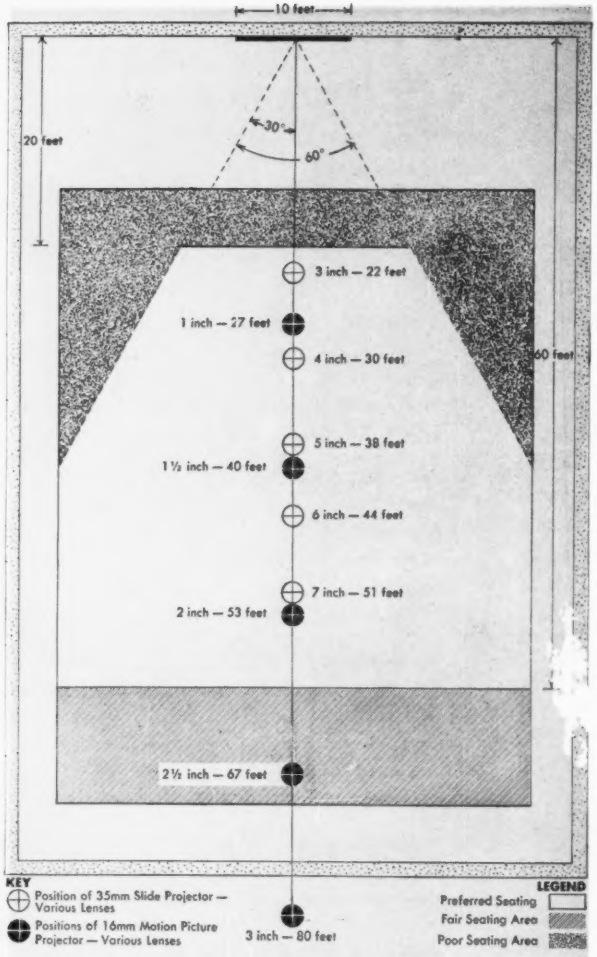
The unvaried accuracy and completeness of a filmed message help to get similar results on a higher level from different locations in business or educational use. Human failings are minimized by the assistance of sight and sound aids.

5. BUILD MORALE

Better understanding of visualized lessons increases confidence of the learner through comprehension of difficult or involved mechanical, mental or physical problems. Indoctrination of workers or students through showing of films reduces time loss through unfamiliarity with policies, regulations and general background.

6. SAVE TIME

Audio-visual materials help business and schools meet higher standards of learning, covering a wider range of subject interests, in less time.



SCREEN SELECTION FOR VIEWING

A PRIMARY STEP in the design of room facilities for audio-visual presentation is the selection of the projection screen. The screen should be selected first to suit the room in which it is to be used. To proceed otherwise is to risk loss of seating space in the audience area.

The room diagram illustrated above shows a typical layout of seating areas, preferred, fair and poor; also shown is the relation of motion picture and slide projectors and lens sizes

THE TWO AND SIX FORMULA: it is well established that the recommended minimum viewing distance of a projected picture is twice the screen width and the recommended maximum viewing distance is six times the screen width (it is assumed that the picture fills the screen). This will be best remembered as the "two and six" formula."

As the layout indicates, motion picture or still projectors equipped with various lenses will not change the screen requirement.

THE DARKLY-SHADED AREA close to the screen (see diagram) is the least desirable seating space due to the inability of the human eye to encompass the full screen area from such a short distance. The area outside of the 30° line of vision also introduces undesirable distortion to the image being viewed. The center of the viewing area is considered optimum.

THE LIGHTLY-SHADED AREA farthest from the screen is satisfactory but serves to emphasize the importance of the proper screen size in the auditorium or the classroom. Too small a screen will tend to increase the competition of general room space and diminish the pictorial values on the screen. When screen and lens are properly matched, the greater part of the seating area will be satisfactorily served.

VIEWING ANGLE DISTORTION: in the average room layout, distortion will not be a problem, but in a very wide space, it must be considered in the layout of the seating area. Undesirable viewing angle distortion occurs beyond the 30° line of view, thus 30° (see layout) generally becomes the maximum viewing angle recommended. It is obvious that it is not the function of the screen to eliminate viewing angle distortion, for this is a matter of perspective and the screen does not cause or control it. Viewing angle distortion can best be minimized by intelligent seating of the audience.

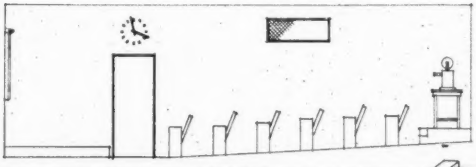
DESIGNED FOR VISUAL EDUCATION

THE BASIC PRINCIPLES of room layout for good projection are as follows: (a) good seating arrangement, which is a matter of utilizing the best area in relation to room size and screen (see page opposite); (b) provision for adequate darkening of window areas, at economical cost and convenience of operation and comfort; (c) adequate ventilation, either natural or artificial, so that the audience will be comfortable at all times; (d) good acoustical conditions, particularly in the case of large halls. This is not a serious problem in classrooms or smaller spaces.

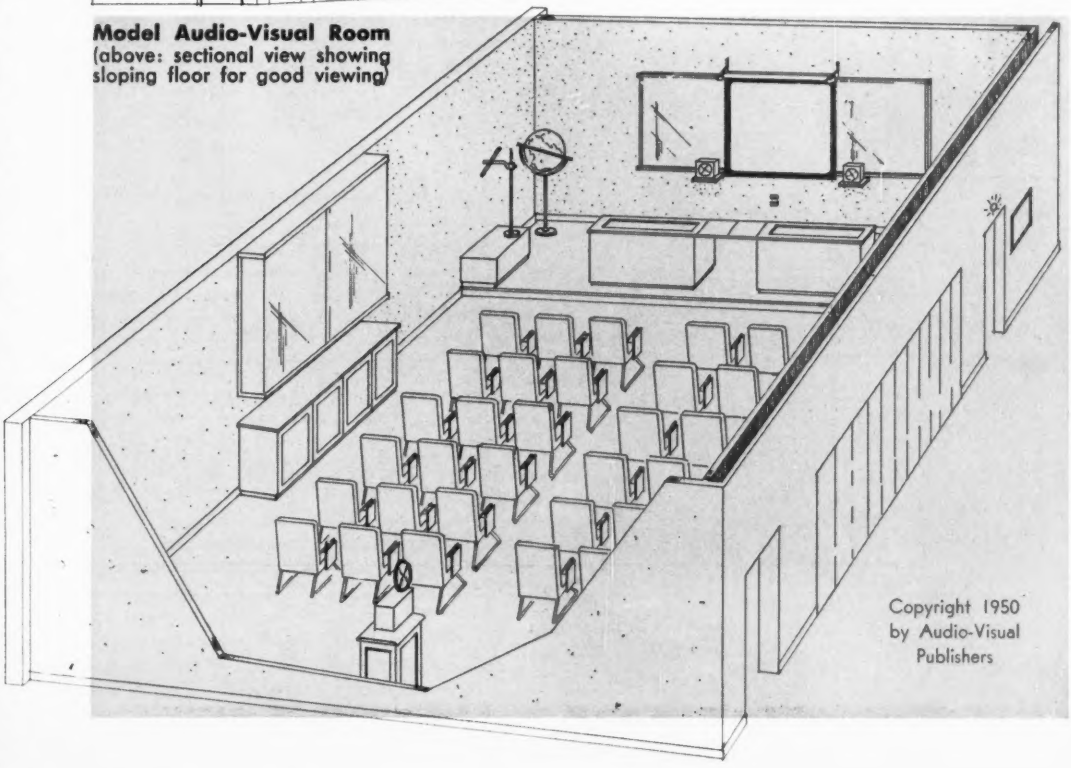
Drapes for windows to be "blacked out" appear to be the most efficient and readily available material. Rooms to be frequently used for projection should be equipped with darkening shades or flameproofed drapes. A good idea is to hang drapes a little distance away from the window surface so that air-flow is provided. There will be little light leakage if made to proper length.

With regard to acoustics, the proper placement of the speaker in the front of the audience is worth noting. The speaker should face slightly downward toward the center of the audience. It is also important that none of the audience is too close to the projector or speaker.

A portfolio of suggestions and ideas called "Designs for Visual Education" is available at $1.00 to executives and architects on this subject. Write Audio-Visual Publications, 150 East Superior Street, Chicago 11, Illinois for this portfolio.



Model Audio-Visual Room
(above: sectional view showing sloping floor for good viewing)



Copyright 1950
by Audio-Visual
Publishers

SCREEN TABLE FOR 16mm MOTION PICTURES

LENS FOCAL LENGTH	SCREEN SIZES								
	30" x40"	37" x50"	45" x60"	52" x70"	63" x84"	6' x8'	7' x9'	8' x10'	9' x12'
	Approximate Distance — Projector to Screen								
1"	9'	11'	13'	16'	19'	21'	24'	27'	32'
1½"	13'	17'	20'	23'	28'	32'	36'	40'	48'
2"	**18'**	**22'**	**27'**	**31'**	**37'**	**43'**	**48'**	**53'**	**64'**
2½"	22'	28'	35'	39'	47'	54'	61'	67'	81'
3"	27'	33'	40'	47'	56'	64'	72'	80'	96'

SCREEN TABLE FOR 2"x2" 35mm SLIDES

(Double Frame)

LENS FOCAL LENGTH	SCREEN SIZES								
	40" x40"	50" x50"	60" x60"	70" x70"	84" x84"	8' x8'	9' x9'	10' x10'	12' x12'
	Approximate Distance — Projector to Screen Horizontal or Vertical Projection								
3"	7'	9'	11'	13'	16'	18'	20'	22'	27'
4"	10'	13'	15'	18'	21'	24'	27'	30'	36'
5"	**13'**	**16'**	**19'**	**22'**	**26'**	**30'**	**34'**	**38'**	**45'**
6"	15'	18'	22'	25'	30'	35'	39'	44'	52'
7"	17'	21'	26'	30'	36'	41'	46'	51'	61'

SCREEN TABLE FOR 35mm FILMSTRIPS

(Single Frame)

LENS FOCAL LENGTH	SCREEN SIZES								
	30" x40"	37" x50"	45" x60"	52" x70"	63" x84"	6' x8'	7' x9'	8' x10'	9' x12'
	Approximate Distance — Projector to Screen Horizontal Projection								
3"	11'	14'	17'	19'	23'	27'	30'	33'	40'
4"	15'	19'	22'	26'	31'	36'	40'	44'	53'
5"	**19'**	**23'**	**28'**	**32'**	**39'**	**44'**	**50'**	**56'**	**67'**
6"	22'	28'	33'	39'	47'	53'	60'	67'	80'
7"	26'	32'	39'	49'	55'	62'	70'	78'	93'

Copyright 1950

The NEW Trend in PREVIEW ROOMS

THE IDEAL USE of audio-visual materials in industry and in education is within the classroom. Individual classrooms within the school or plant buildings should be equipped on this basis and the minimum requirements are simply (a) proper electrical outlets; (b) darkening of window spaces; and (c) provision for a wall or ceiling screen.

The trend among many business firms, advertising agencies and industrial plants as well as larger school systems, however, is to equip at least one or more rooms as specific audio-visual centers. Modern design can provide many advantageous features for the functional use of all types of audio and visual aids. Such spaces can also combine the objectives of conference room use, presentation room and preview facilities.

Here are a few of the ideas now being put into practice (and illustrated in part on this page):

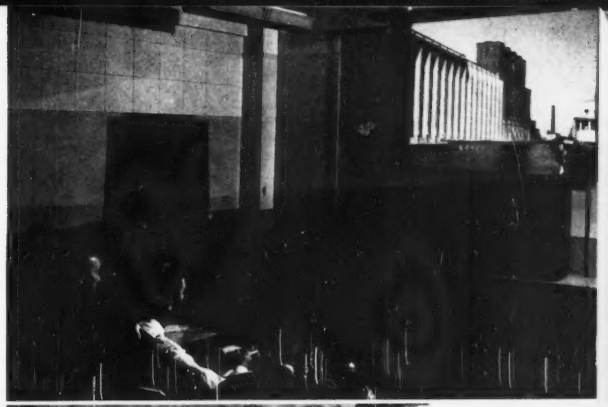
(1) Select a windowless area of the building. Artificial lighting and air-conditioning provide for absolute control of illumination and ventilation. Such space is sometimes more easily available.

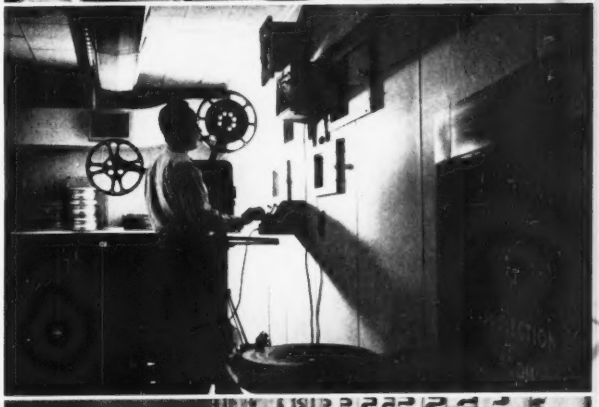
(2) Provide for a projection booth if space permits. The booth is not essential where 16mm sound projectors are used but serves to remove equipment and film handling from the conference or screening space.

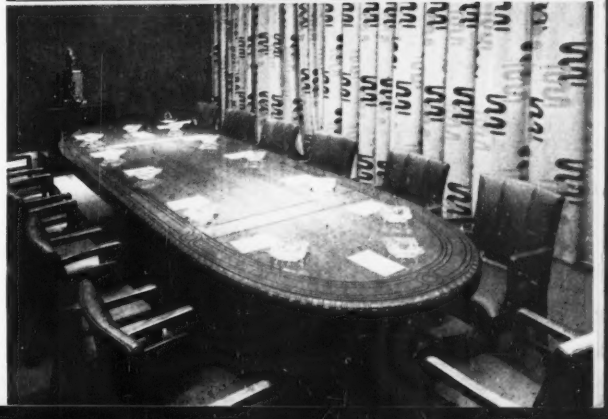
(3) Good lighting can enhance the preview room and also provides functional advantages for dramatizing presentations. Both direct and indirect lighting should be considered. Inexpensive rheostat units are available to provide dimming of room lights (except fluorescent) before and after the film showing.

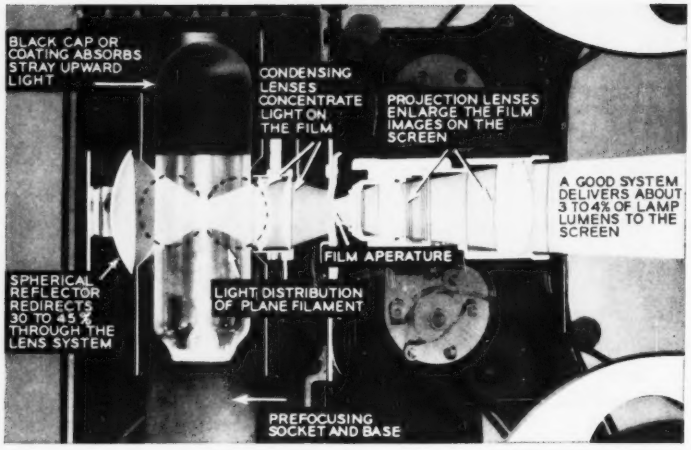
(4) Provision should be made for the storage of presentations. They should also be easy to mount and stage. Supplemental materials should be easily reached.

(5) Furniture should be comfortable and functional. Neither furnishings, room color nor accessories should distract the audience.








BLACK CAP OR COATING ABSORBS STRAY UPWARD LIGHT
CONDENSING LENSES CONCENTRATE LIGHT ON THE FILM
PROJECTION LENSES ENLARGE THE FILM IMAGES ON THE SCREEN
A GOOD SYSTEM DELIVERS ABOUT 3 TO 4% OF LAMP LUMENS TO THE SCREEN
FILM APERATURE
SPHERICAL REFLECTOR REDIRECTS 30 TO 45% THROUGH THE LENS SYSTEM
LIGHT DISTRIBUTION OF PLANE FILAMENT
PREFOCUSING SOCKET AND BASE

One form of optical system, typical of the small portable motion picture projectors that have made 16mm movies both practical and popular. A glance at the picture shows that good projector performance must inevitably mean close collaboration between projector manufacturer and lamp makers. It is the co-ordination of lamp and optical system design that has made possible a sustained increase in screen brightness.

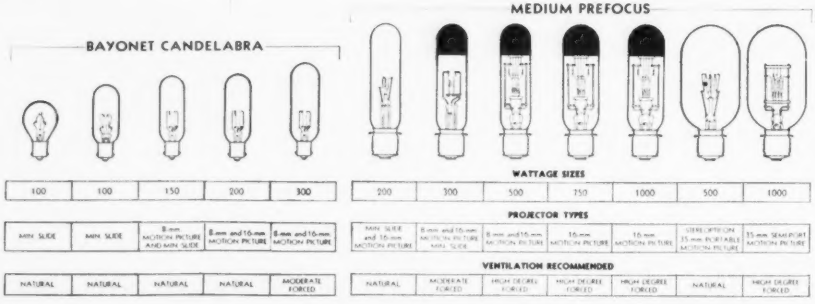
LAMPS FOR LIGHT PROJECTION

Light sources used in picture projection systems represent extreme precision in lamp making. Light must be accurately controlled in the interest of efficiency and compactness. Filaments must be accurately located at the focal points of the optical system by extreme care in positioning the filament with respect to prefocusing bases. Highly concentrated monoplane and biplane filaments accurately regulated as to horizontal and vertical dimensions are employed. Tubular bulbs allow the spherical reflector and condensing lens to be placed close to the filament to intercept all possible light. A lamp with a 750-watt filament operating at a temperature of 5300° F and only three-quarters of an inch away from the glass envelope which has a maximum safe operating temperature of 975° F must dissipate as much energy as a one-horsepower motor. Forced ventilation of lamp housings is necessary in many cases to keep glass from softening.

RECOMMENDED LINE OF PROJECTION LAMPS

Most modern projectors are designed around the fourteen types of lamps listed below. This line of lamps gives an adequate range of sizes from 75 watts to 2100 watts. The group of seven lamps with medium prefocus bases from 200 watts to 1000 watts represent 80% of the demand, with approximately 10% each for both the lower and higher wattage group.

It will be noticed that this recommended standard line exhibits only focusing types of bases in candelabra or bayonet, prefocusing and bipost which assures accurate light positioning. Early models of projectors, almost universally, used screw bases. This aspect alone doubles the number of lamp types. The early use of non-standard voltages further multiplied the line several fold.



Technical data and illustrations on this page were supplied by the Lamp Department, General Electric Co.

SECTION ONE

16MM MOTION PICTURES

A FOREWORD TO GOOD UTILIZATION

Audio and visual — or "visual-sensory" — aids to learning are widely used in schools, industry, the church and community with recognized advantages in each specific field. Motion pictures, slides and slidefilms, recordings and other familiar "aids" are now especially prepared for these fields of use; their successful utilization largely depends on the quality and effectiveness of pictorial projection as well as good sound reproduction.

Once the picture has been produced with utmost professional skill and interest — the show's the thing! Good showmanship implies careful training of projectionists, familiarity with the principles of many and varied types of audio and visual equipment, a sense of good "Theatre" and basic knowledge of successful procedure to assure the nearest to perfection which can be achieved in putting images on the screen and reproducing sound.

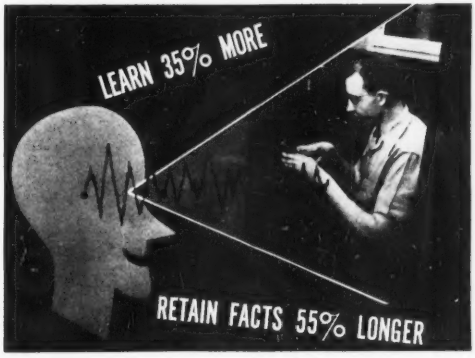
The basic skills to be acquired are not difficult. Students, workers, church and club members, sales and service employees may all be quickly trained to become qualified projectionists; a vast increase in the effectiveness of all visual training and general educational use of these aids must certainly result. There is, in fact, entirely too much dependence on a single trained operator in many schools and plants, handicapping the development of these classroom tools. To meet an apparent and highly desirable trend toward use of films and sound by small groups of students and trainees and a corresponding development of portable equipment, there should be an adequate reserve of trained projectionists.

But it is not alone manual dexterity which these trainees must acquire; of equal importance is the art of good showmanship mentioned. For good projection is the final realization of all the art and skill which has gone into picture-making. Never apparent except when inefficient or careless, the qualified projectionist fills the place of real responsibility. No distractions or interruptions must deter him from the successful completion of a fine performance. No mechanical failures or other delaying factors can break the age-old tradition of the theatre: the show must go on! Thus the good projectionist earns a deserved reputation for dependability and professional skill in his job.

It is in this spirit that the Editors of this Handbook approach the problem of providing to many thousands of trainees this basic outline of projection factors, physical procedures and simple technical guidance. — *The Editors*

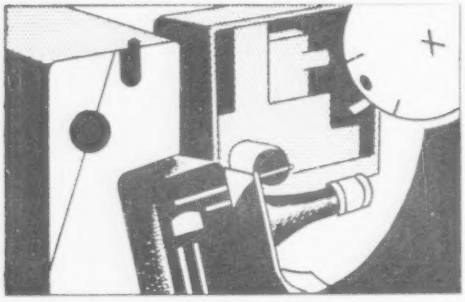
HERE ARE THE LESSONS AHEAD:

THE PROJECTIONIST'S JOB
BEFORE THE SHOWING
STARTING THE PICTURE
DURING THE SHOWING
ENDING THE PICTURE
AFTER THE SHOWING
PROJECTOR CARE & LUBRICATION

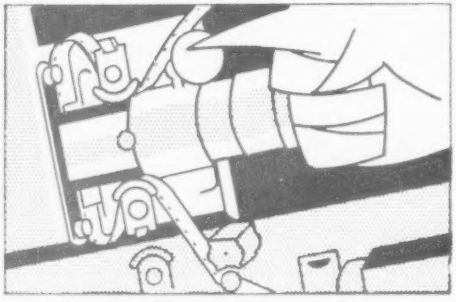


THE PROJECTIONIST'S JOB

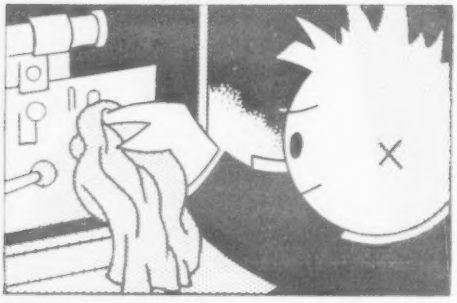
The projectionist is concerned with more than just the operation of the equipment he is using. *He must know:*



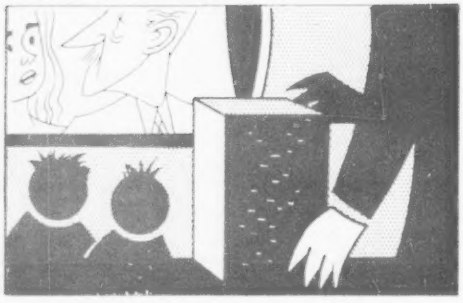
1 The various types of audio-visual equipment now in common usage.



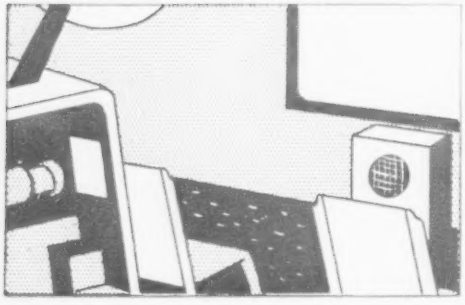
4 How to properly thread the projector and care for the film.



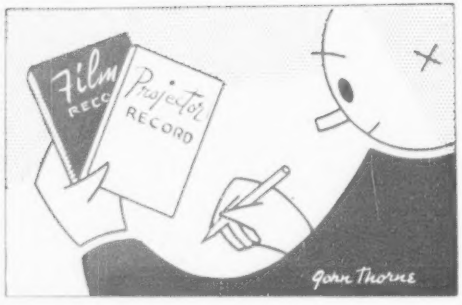
2 How to clean and oil equipment.



5 The techniques for effective showing of visual aids.



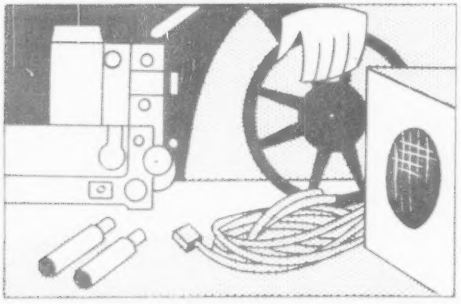
3 How to set up the equipment.



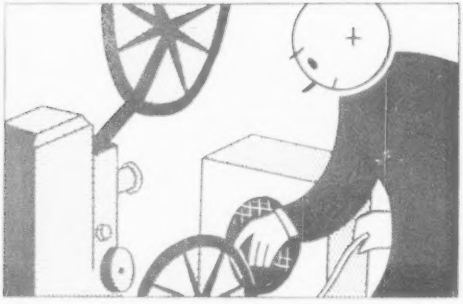
6 How to keep the required records.

BEFORE THE SHOWING

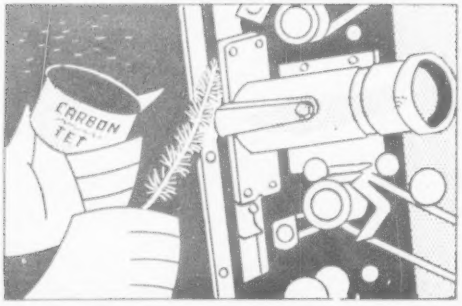
Getting ready for the film showing is one of the most important steps in putting on an effective presentation. A good projectionist makes sure that everything is in order before the class assembles. *He should:*



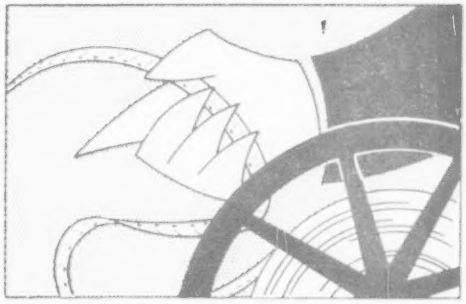
1 Check the equipment to see that all cords, spare lamps and reels are on hand.



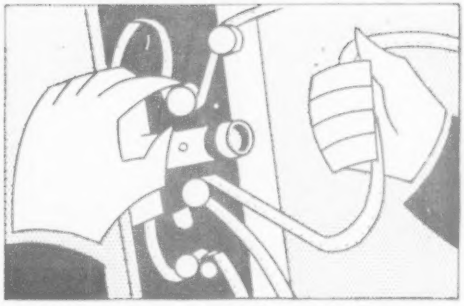
2 Set up equipment, place speaker in best position, center projection beam on screen.



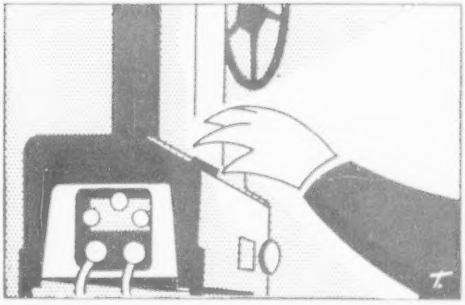
3 Clean gate and all surfaces over which film runs with carbon tetrachloride or alcohol.



4 Check film to see that it is correctly wound and in condition for showing. Check title.



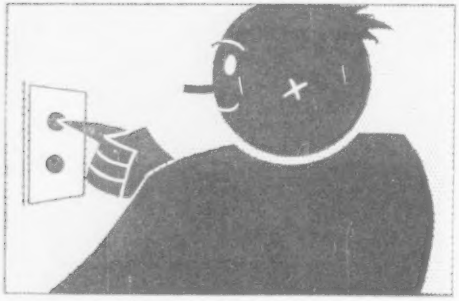
5 Thread projector. Test to see that film is moving through projector properly.



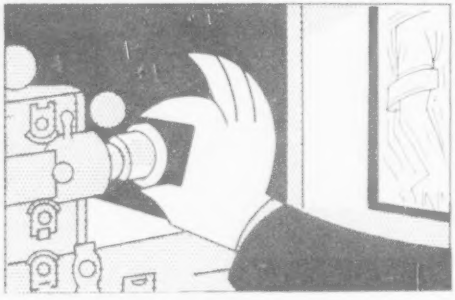
6 Warm up the amplifier. Test run, focus picture, adjust volume and tone.

STARTING THE PICTURE

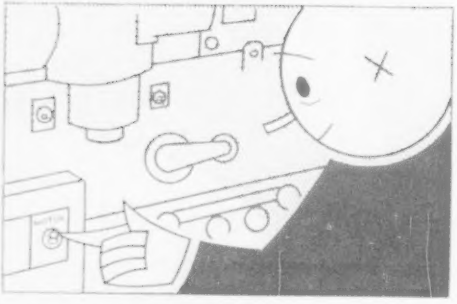
A poor start will disrupt the class and cause them to miss important clues upon which the rest of the film depends. *To insure a smooth start:*



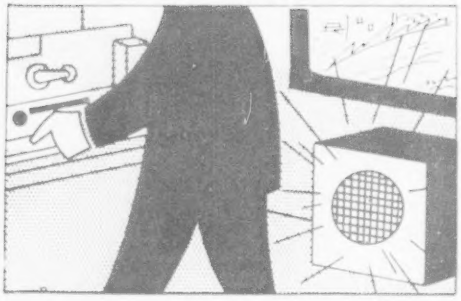
1 Arrange before showing to have assistant turn off or dim lights when ready to show.



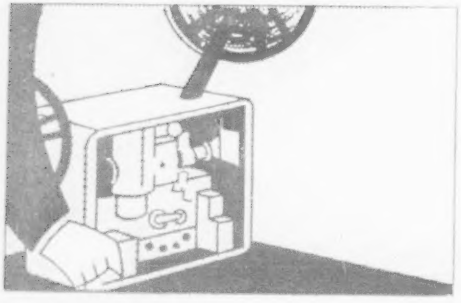
4 Check the focus and framing.



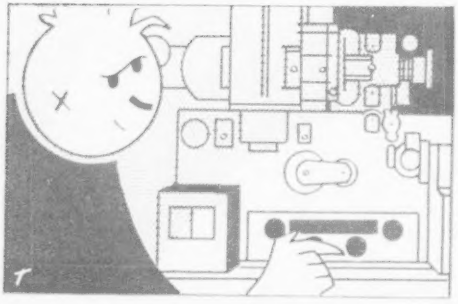
2 Turn on the projector motor.



5 Fade the volume.



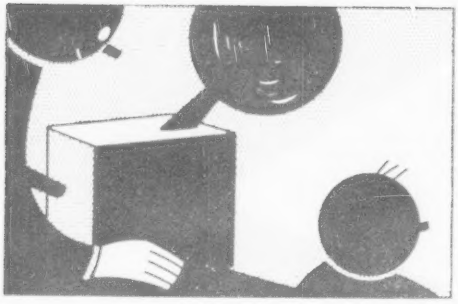
3 Turn on the lamp.



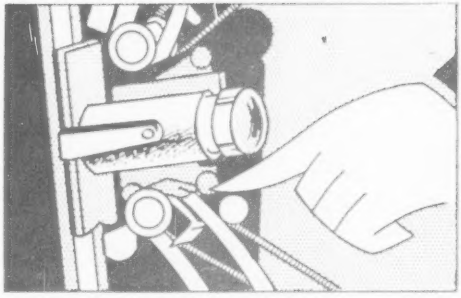
6 Adjust the tone.

DURING THE SHOWING

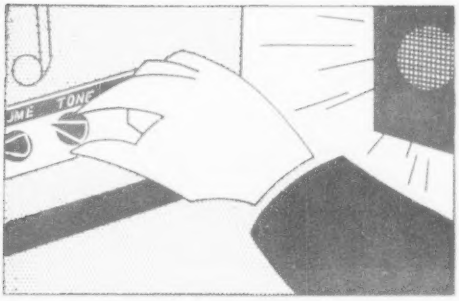
The projectionist's job does not end with the starting of the film. Throughout the entire time that the picture is being run he must be alert for any emergency. *During the showing the projectionist should:*



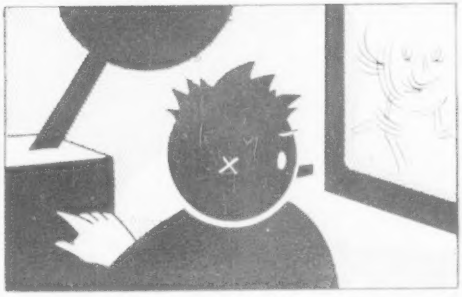
1 Never leave projector while in operation.



4 Check the film occasionally to see that no damage is occuring.

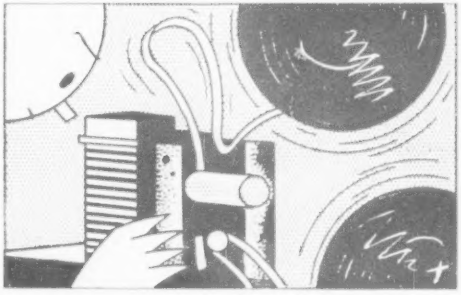


2 Keep volume and tone at proper level.



5 Keep the picture in focus.

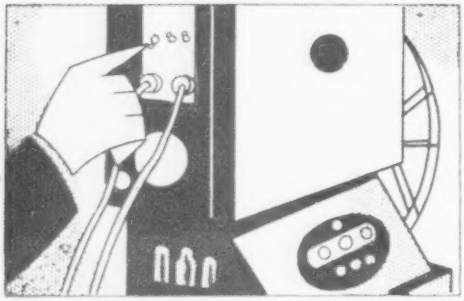
3 Keep the picture in frame.



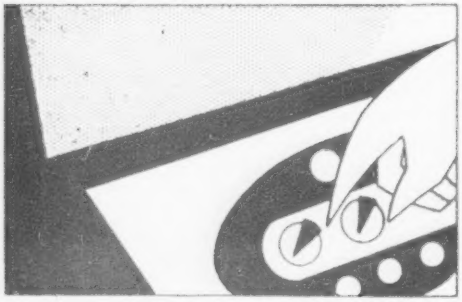
6 Check loops periodically. Loss of loops causes film damage.

ENDING THE PICTURE

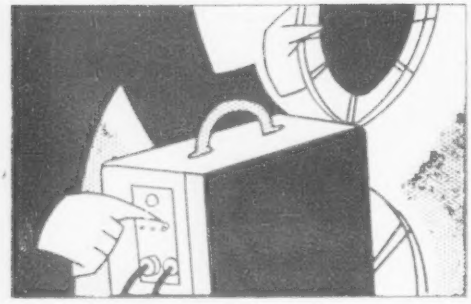
The ending of the film is equally as important as the beginning. A poor ending will divert the attention of the class from the film content. *For a smooth ending use the following procedure:*



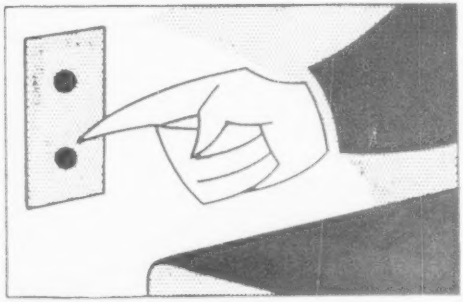
1 Turn off the lamp.



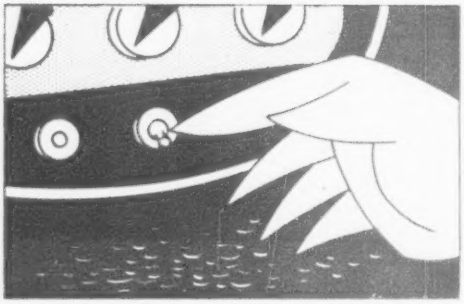
2 Fade the volume.



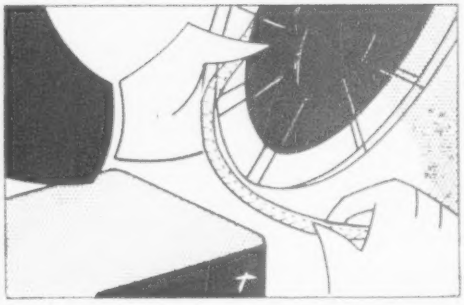
3 Turn off motor after film has run completely through the machine.



4 Have an assistant turn on the room lights.



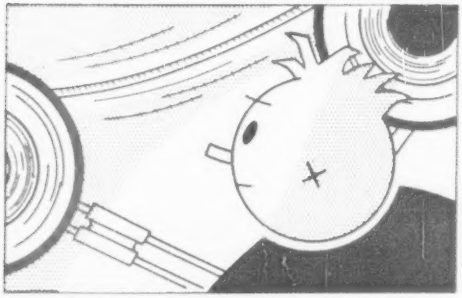
5 Turn off amplifier if no more films are to be shown.



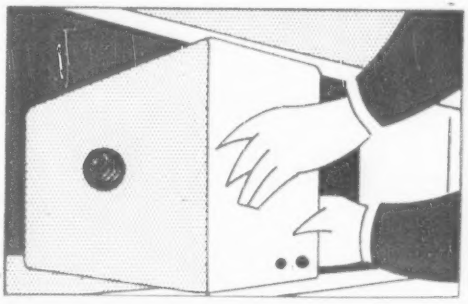
6 Get ready for the next reel if other films are to be shown. Work quietly.

AFTER THE SHOWING

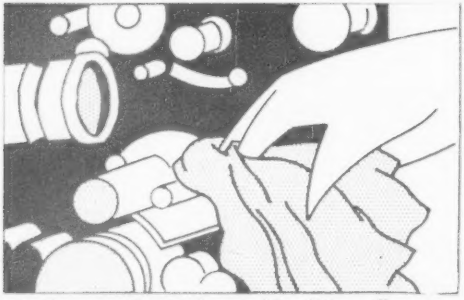
The job of the projectionist does not end with the showing of the film. *After the class is over he must:*



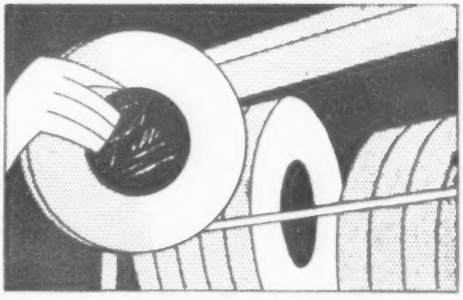
1 Rewind film if to be used again or get ready to return to the library without rewinding.



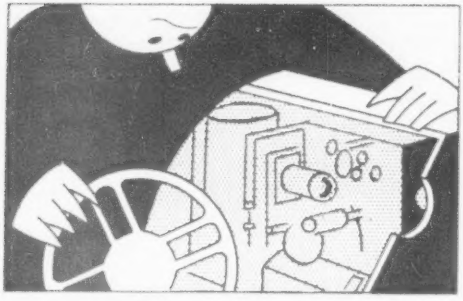
4 Return projector to proper storage place.



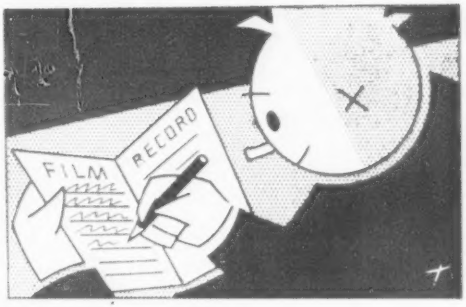
2 Clean projector thoroughly. Wipe off excess oil, clean film channels.



5 Get film ready for return to film library.



3 See that all cords, reels, spare lamps are in their proper place.

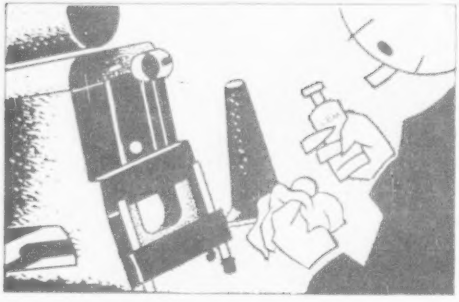


6 Make out required records.

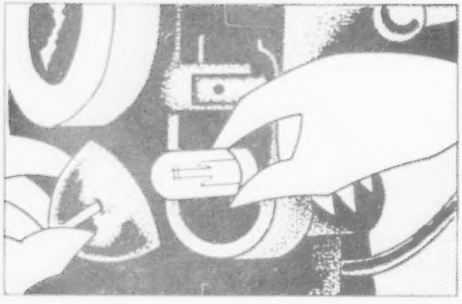
PROJECTOR CARE

With proper care all projectors will give good service over a long period of time without major repairs. The projectionist should concern himself with elementary maintenance, leaving major repairs to a qualified serviceman. *The following maintenance is the responsibility of the projectionist:*

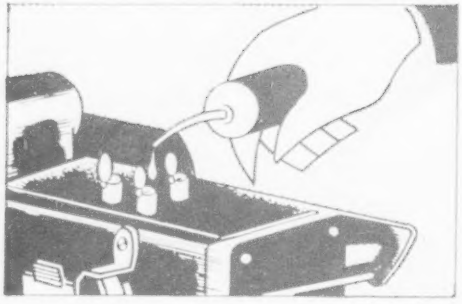
1 Replacing defective lamps; projection, exciter, or thread (pilot) lamps.



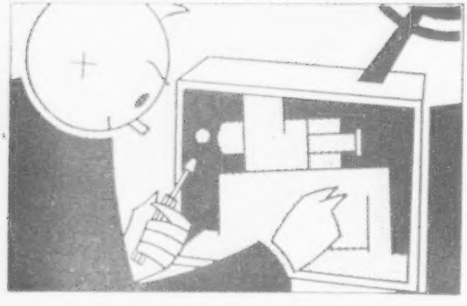
4 Cleaning reflectors, lenses, gates.



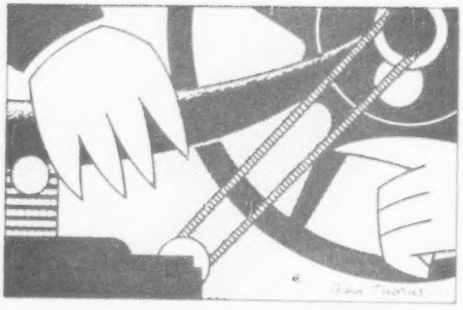
2 Replacing defective tubes, photo cells, and fuses.*



5 General lubrication according to instructions.



3 Minor adjustments; tightening loose screws.*

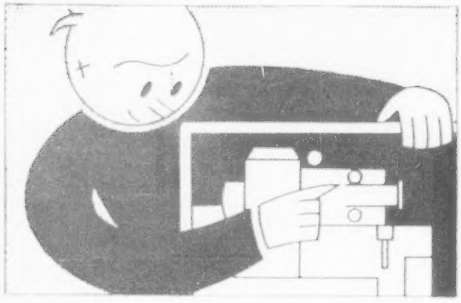


6 Replacing motor, take-up, and rewind belts.*

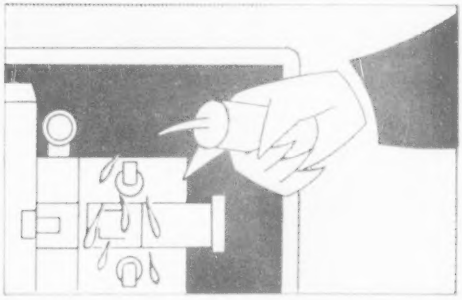
***Not to be done by student operators.*

LUBRICATION

Lubrication is essential to any piece of machinery; audio-visual equipment is no exception. One of the projectionist's jobs is to keep the projector properly lubricated. ***In oiling a projector you should:***

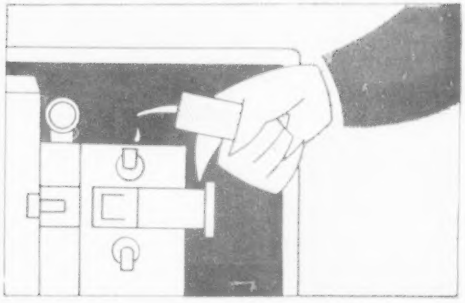


1 **Know location of all oil holes and cups.**

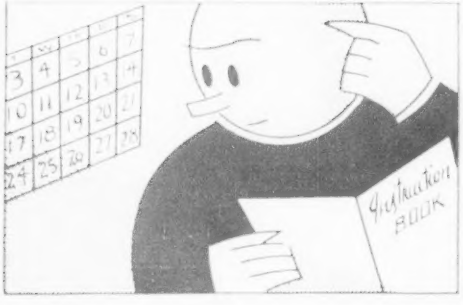


4 **Do not over oil. Too much oil causes sluggish motor, oil on film & blurred sound.**

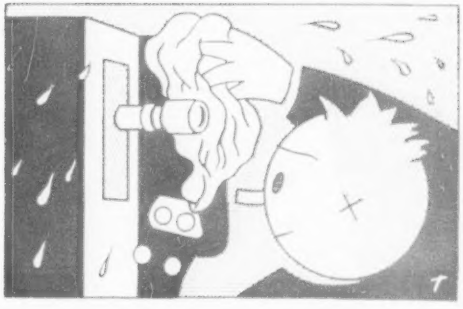
2 **Know type of oil required.**



5 **Do not under oil. Under oiling causes motor freezing, noisy projector & worn bearings.**



3 **Know how often oil is required.**



6 **Wipe off excess oil from projector.**

Note: Always consult the manufacturer's instruction book for oiling instructions for your machine.

SPLICING

Even the best of projectionists may break a film. Knowing how to properly splice a film is an important part of the projectionist's job. A film with a good splice is as strong as the original.

For a good clean splice use the following procedure:

1. **Clean splicer thoroughly.**
2. **Insert film in splicer, emulsion side (dull) up. Be sure perforations are seated on pins. Fig. 1**
3. **Cut film leaving clean cut edges. Fig. 2**
4. **Moisten exposed edge of film with water.**
5. **Scrape emulsion from film. Fig. 3**
6. **Wipe off excess water.**
7. **Apply fresh film cement. Do not use too much cement. Place film in right hand lock on scraped edge of left hand film.**
8. **Apply pressure and allow cement to dry a few seconds. Fig. 4**
9. **Wipe off excess cement.**
10. **Check splice for strength, smoothness, and cleanliness.**

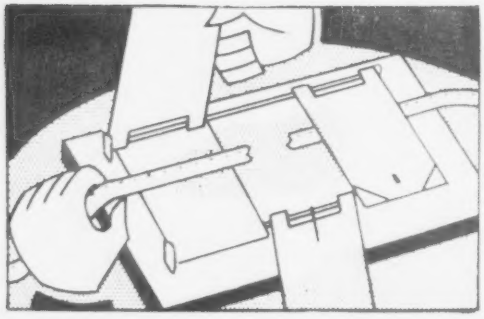


Figure 1

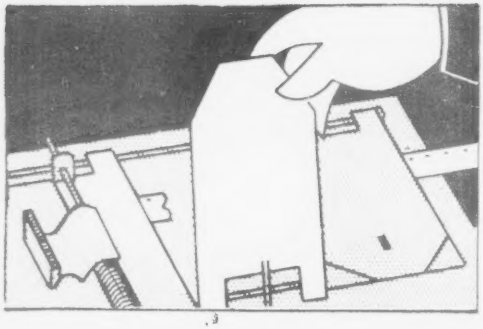


Figure 2

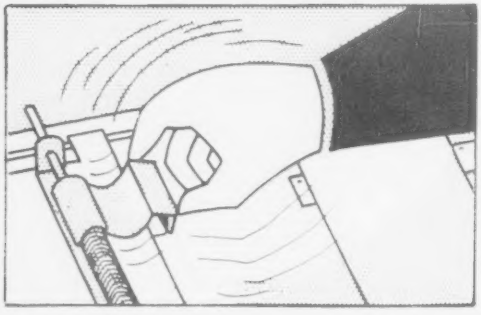


Figure 3

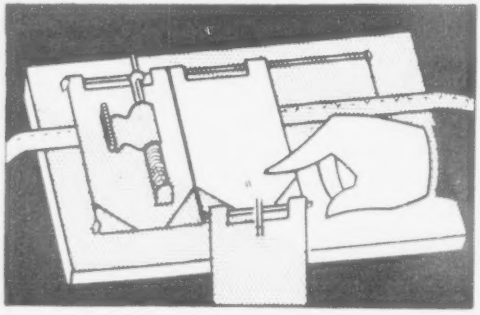
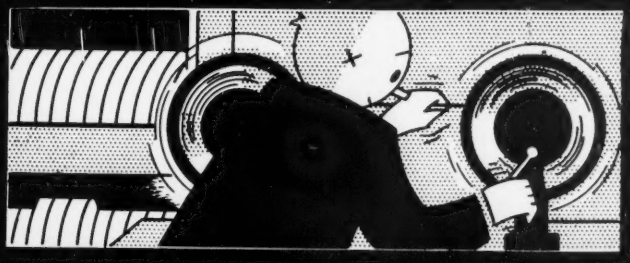


Figure 4

FILM CARE AND MAINTENANCE

The projectionist will have a great deal to do with prolonging the life of the film. Most damage that occurs to film is due to careless handling and improper threading at the time of the showing.



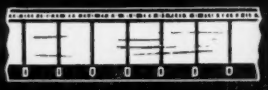
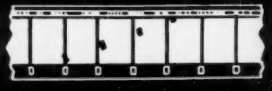
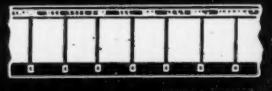
The common sources of film damage are:

1. Equipment in poor condition.
2. Dirty projector.
3. Improper threading.
4. Careless rewinding.
5. Incorrect splicing.
6. Thoughtless handling of film.
7. Improper storage.

Film damage can be avoided if the following practices are followed:

1. Keep projector clean and in good repair.
2. Thread projector properly.
3. Occasionally check film as it goes on take-up reel for damage.
4. Avoid use of bent reels.
5. Rewind and inspect film carefully. Repair brakes, tears and torn sprocket holes. Make neat strong and proper splices.
6. Store film in cool place. (55° to 70° F)
7. Clean film at frequent intervals.
8. Keep film off floor.
9. Never cinch film on reel.

TYPES OF FILM DAMAGE ITS CAUSE AND REMEDY

	PROBABLE CAUSES	REMEDY
 1. Scratches	a. Dirty rollers, gate, film channel. b. Cinching film on reel. c. Letting loose film fall on floor.	Clean projector, handle film carefully.
2. Creases	a. Stepping on film. b. Pinching film in closing film can.	Handle film carefully.
3. Enlarged Sprocket Holes	a. Too much tension on gate or take-up reel. b. Jerking movement of take-up reel. c. Shuttle worn or out of adjustment. d. Worn sprockets. e. Loss of loops.	Have projector attended to by approved repairman. Rethread.
4. Torn Sprocket Holes	a. Too much tension on gate or take-up reel. b. Jerking movement of take-up reel. c. Worn shuttle or sprockets. d. Dry film; loss of loops.	Have projector attended to by approved repairman. Humidify; rethread film.
5. Breaks	a. Faulty film splice. b. Sudden jerk on take-up reel. c. Film improperly placed in film channel. d. Failure to allow loops.	Make correct splice; rethread machine.
 6. Sprocket Holes on Sound Track or on Film	a. Running a sound film on silent type projector. b. Incorrect threading. (Sound track and sprocket track reversed) c. Film failing to engage sprocket teeth.	Use appropriate equipment for type of film. Make sure film is on reel properly. Rethread and check.
7. Burned Spots	a. Faulty or sticking fire shutter. b. Projector running too slow without fire shutter in place.	Have projector checked by approved repairman.
 8. Dirt on Film	a. Improper or careless storage. b. Dirty projector. c. Improper handling of film.	Clean projector. Clean film. Wipe with soft clean cloth and carbon tetrachloride. Handle film carefully.

SECTION TWO

THREADING DIAGRAMS

16mm SOUND MOTION PICTURE

Simplified graphic threading diagrams with key parts of 16mm projectors shown in color are presented on the following pages of this Handbook. For the most part these are original and exclusive diagrams created for this Handbook.

A great deal of film damage that occurs is due to improper threading. Most standard makes of sound projectors are designed to give minimum film damage if they are properly threaded. Always test projector operation before the show begins. Run slowly through a few feet of leader. Do not try to thread sound films in a silent projector. Seven simple rules for safe sound projection are provided at the bottom of this page.

SAFETY PRECAUTIONS

Modern audio-visual equipment is designed with the safety of the operator in mind. However, care must be taken in handling any piece of electrical equipment. In handling audio-visual equipment the following practices should be observed:

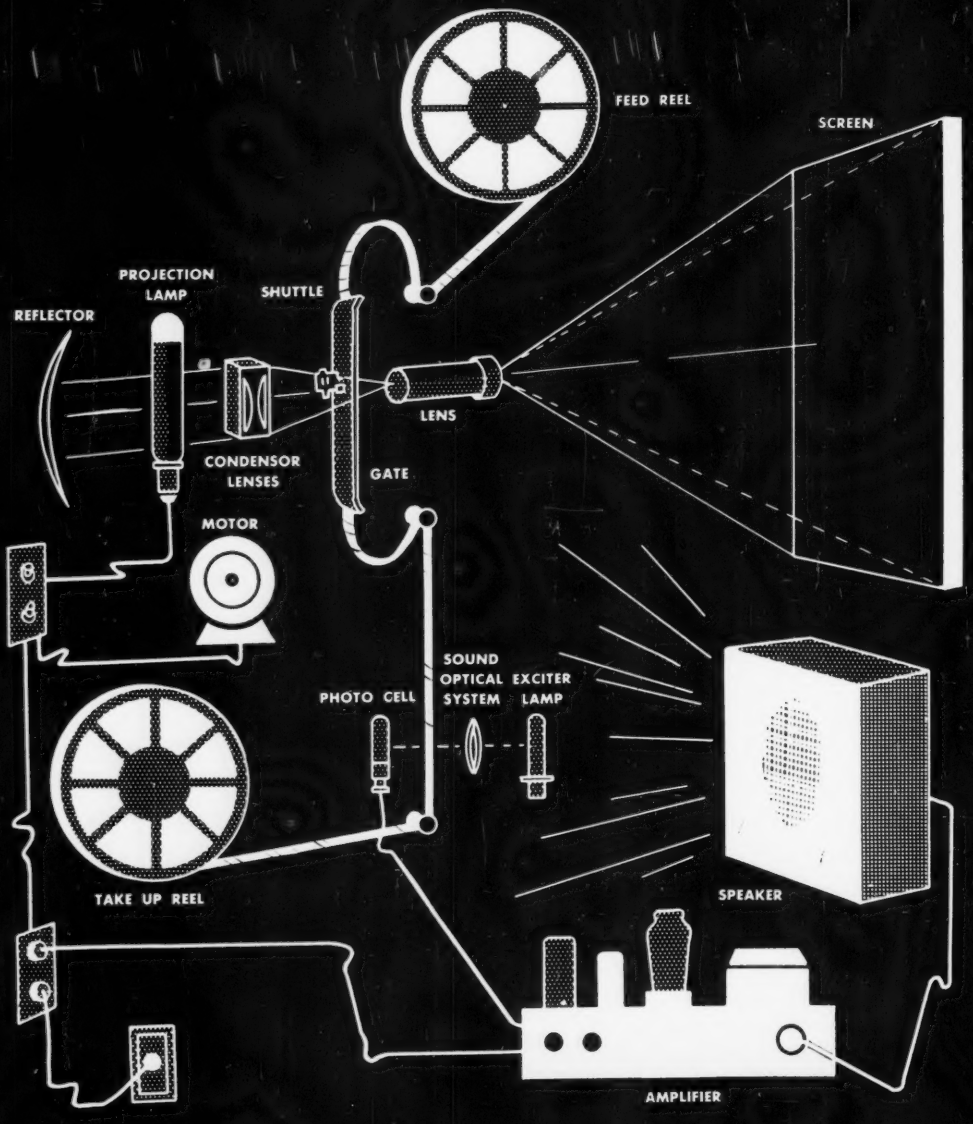
1. Never use a fuse of higher rating than specified.
2. Disconnect the power cord when checking fuses.
3. Never leave the projector while it is running.
4. Always use a cloth or lamp remover to change hot lamps.
5. Don't use worn or frayed power cords.
6. Keep a flashlight handy in case of power failure.
7. Secure projector and speaker so that there is no danger of them being knocked over.
8. Provide substantial stands for speaker and projector.
9. Keep sound and power cords out of aisles whenever possible.
10. Avoid excessive rewind speeds.
11. Do not clean projector gate or sprockets while running.

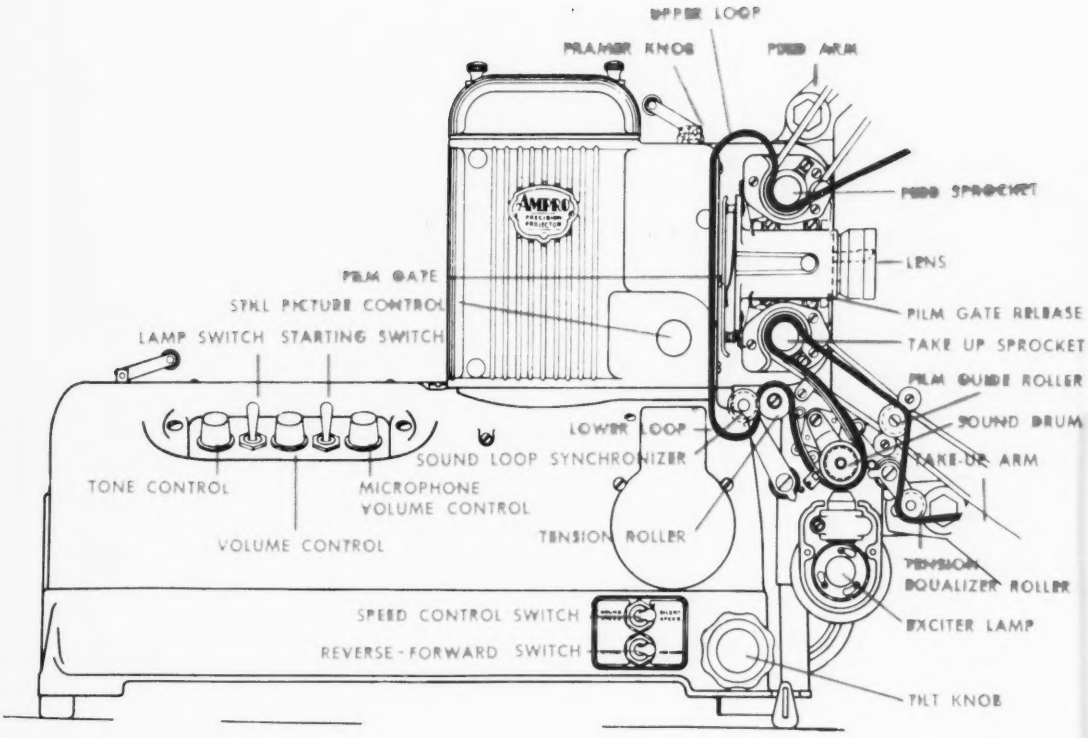
FOLLOW THESE SIMPLE RULES:

- **Follow the manufacturer's threading diagram carefully.**
- **Form proper loops.**
- **Seat film correctly in gate.**
- **Engage film with sprocket teeth.**
- **Check all reels before using to see that they are not bent.**
- **Attach reels securely to reel arms.**
- **Test projector to see that film is moving through properly.**

16 MM SOUND MOTION PICTURE PROJECTOR

This exploded view shows the parts common to all 16 mm projectors. Learning the names and functions of the various parts will help you to better understand this manual and the manufacturer's instruction book.



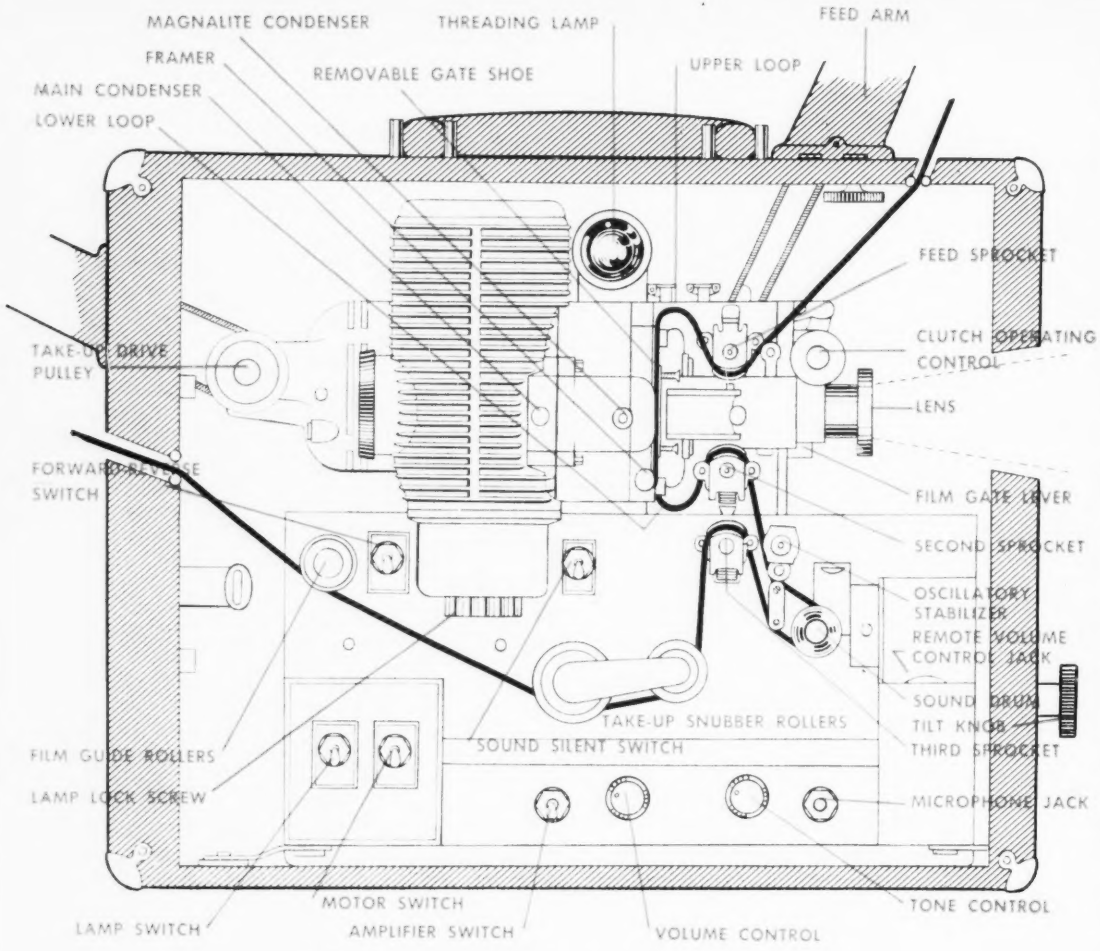


AMPRO THREADING

1. Place full reel on feed arm and pull out about three feet of film.
2. Thread feed sprocket.
3. Form upper loop.
4. Thread film channel. (Push sound loop synchronizer to rear position).
5. Place film over tension roller.
6. Thread film around sound drum.
7. Thread take-up sprocket (close film gate and move sound loop synchronizer to forward position).
8. Thread film over guide roller and under the film tension equalizing roller.
9. Attach loose end of film to take-up reel.
10. Check threading by turning manual adjusting knob on left side of projector.

REWINDING

1. Attach loose end of film in slot in upper reel.
2. Move belt shifter to maximum counter-clockwise position.
3. Throw reverse-forward switch to "reverse".
4. Throw motor switch to "start".
5. Push in the rewind clutch button.



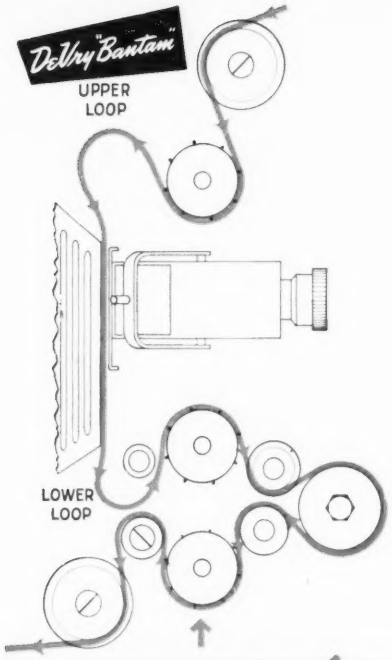
BELL & HOWELL THREADING

1. Place full reel on feed arm.
2. Thread feed sprocket
3. Form upper loop.
4. Thread film channel. (Close gate)
5. Form lower loop.
6. Thread second sprocket.
7. Thread sound drum.
8. Thread third sprocket. (Applying proper tension on oscillatory stabilizer rollers)
9. Place film under take-up snubber rollers.
10. Attach loose end of film to take-up reel.
11. Check threading by turning hand setting knob clockwise.

REWINDING

1. Remove full reel from take-up arm and place it on feed arm.
2. Attach loose end of film to empty reel on take-up arm.
3. Raise up take-up arm spindle to engage rewind gears.
4. Turn on motor switch.
5. Use hand as brake as film rewinds.

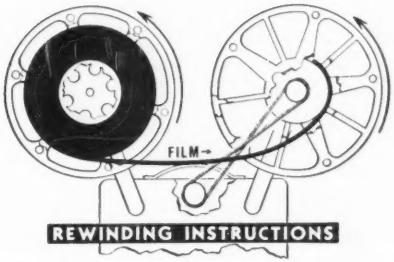
DEVRY THREADING



DEVRY "BANTAM"

IMPORTANT

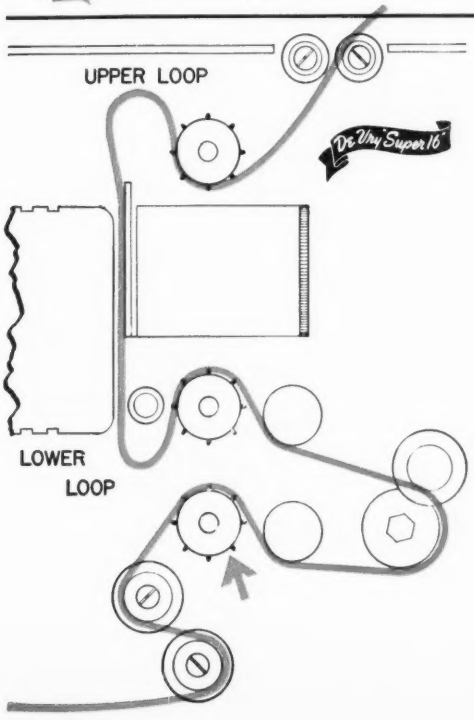
Before Engaging Film to Take-up Sprocket (RED ARROW), Draw Film Tight to Left. Then Release Film Distance of Two Sprocket Teeth to Place Correct Slack in Film.



REWINDING INSTRUCTIONS

1. Place Belt on Large Pulley. 2. Put Half Twist in Belt and Place on Pulley on Front Reel Arm. 3. Attach Film to Hub of Empty Reel. 4. Start Motor.

(After rewinding return belt to projection position)



DEVRY "SUPER 16"

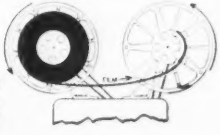
IMPORTANT!

Before engaging film to take up sprocket (RED ARROW), draw film tight to left to take out all slack. Then release film until first available set of film perforations are in position for engagement with sprocket teeth.

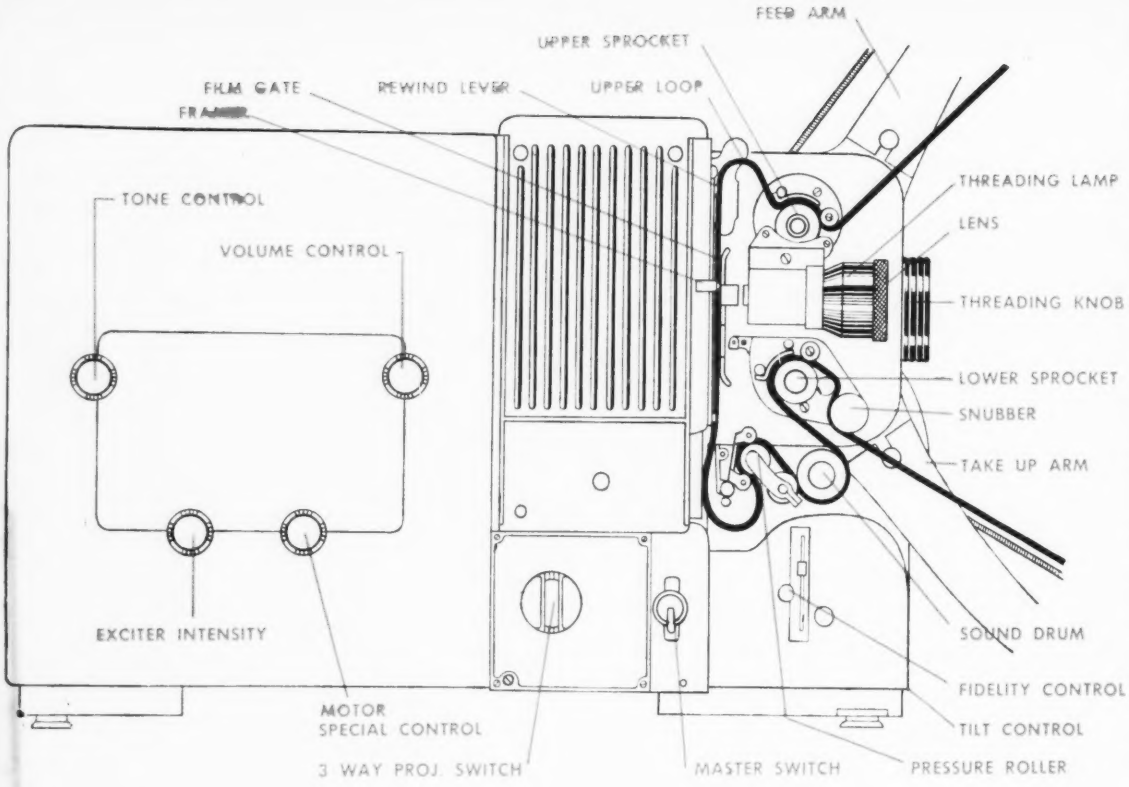
(Correct slack is equivalent to about ½ frame)

REWINDING INSTRUCTIONS

1. Close Plunger on Front Reel Arm
2. Attach Film to Hub of Empty Reel
3. Set Switch to "REV" Position
4. Start Motor



CAUTION! Before Projecting Set Plunger OUT, Set Switch To "FWD" (Forward Position)

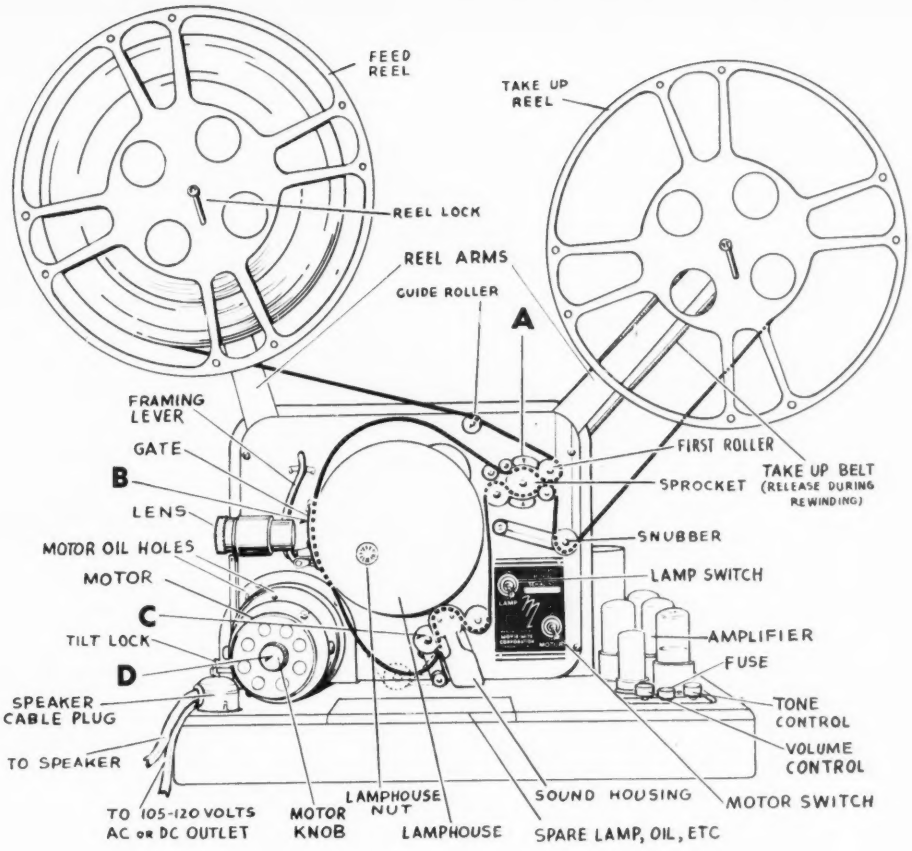


EASTMAN (Sound Kodascope) THREADING

1. Place full reel on feed arm.
2. Thread upper sprocket.
3. Form upper loop.
4. Thread film channel. (Close gate).
5. Form lower loop.
6. Thread sound drum.
7. Thread lower sprocket.
8. Thread snubber.
9. Thread take-up reel. (Take up slack)
10. Check threading by turning hand threading knob.

REWINDING

1. Be sure that film has run completely through machine.
2. Attach film to upper reel.
3. Pull out on rewind lever.
4. Turn switch to "motor."
5. Brake full reel with hand.

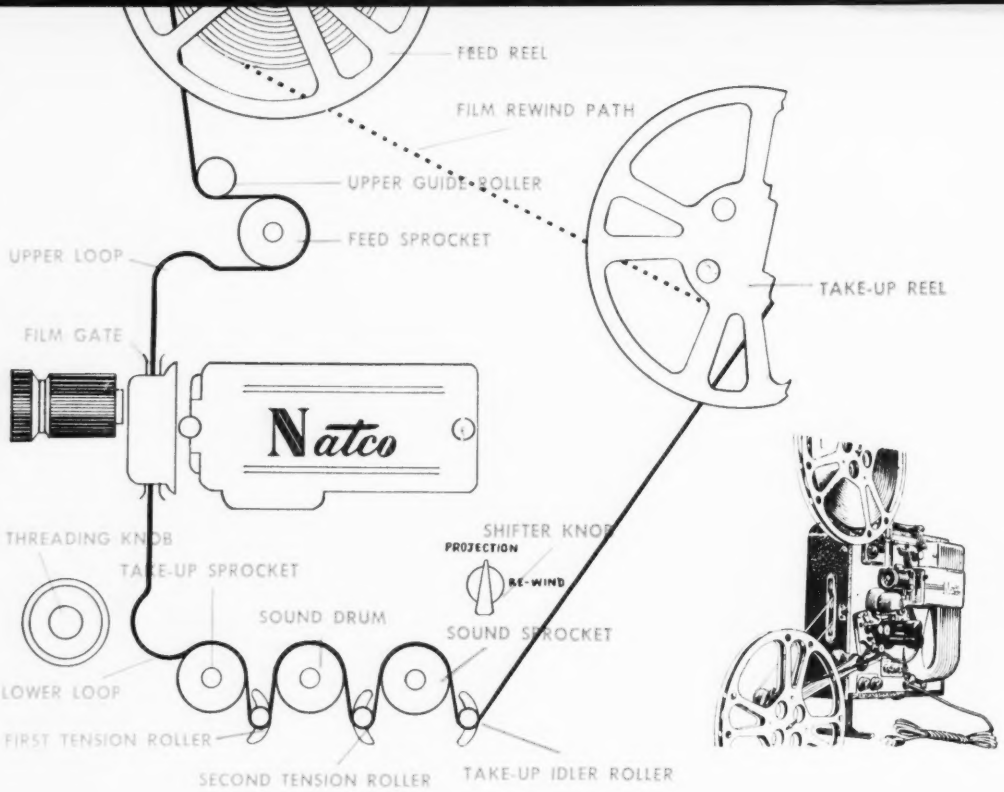


MOVIE-MITE THREADING

1. Insert film as indicated at A. Film Clip A is pushed back to allow perforations to engage with sprocket teeth.
2. Line up any tooth on sprocket with arrow stamped on film clip A by rotating hand setting knob D counter clockwise. Film channel at B is now cleared of shuttle teeth, allowing film to be edged behind pressure plate at B.
3. Rotate hand setting knob again so arrow at A is between any two sprocket teeth. This assures maintaining upper loop.
4. Swing pad arm C to left and complete threading without slack. Raise pad arm C after completing threading, allowing film to resume position indicated.

REWINDING

1. Leave reels in same position as when in operation.
2. Remove take-up belt from pulley.
3. Pull out rewind belt and place on feed reel pulley for rewinding. (Do not cross belt.)
4. Feed film back under the original feed reel and rewind.



NATCO THREADING

1. Open all film sprocket shoes and move pressure plate lever to left, thus opening film gate.
2. Pass film under upper guide roller and around right side of feed sprocket. Engage film perforations with sprocket teeth and close film shoe.
3. Form upper loop (10 or 12 frames) and place film in film gate; close pressure plate.
4. Form lower loop (10 or 12 frames) and place film on take-up sprocket.
5. Engage film perforations with sprocket teeth and close film shoe.
6. Turn threading knob several revolutions to the left to permit shuttle claws to engage film perforations.
7. Pass film under first idler roller and over sound drum. Then pass film under second idler roller. Pull film upward to raise both idler rollers about 3/16 or ¼ inch from bottom of idler roller travel slots to insure required tension of film over sound drum.
8. Place film on sound sprocket and engage film perforations with sprocket teeth; close film shoe.
9. Pass film under take-up idler roller and insert end of film into slot in hub of take-up reel; take up all film slack.
10. Turn threading knob several more revolutions to the left to insure proper engagement of sprocket holes by shuttle claws.

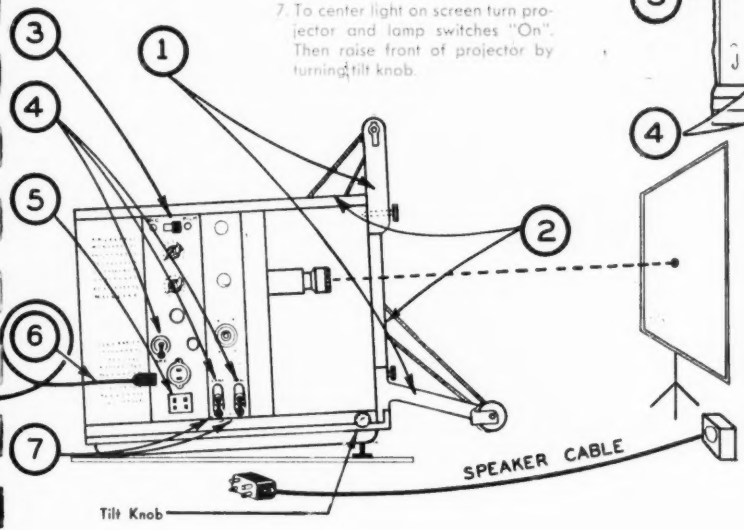
REWINDING

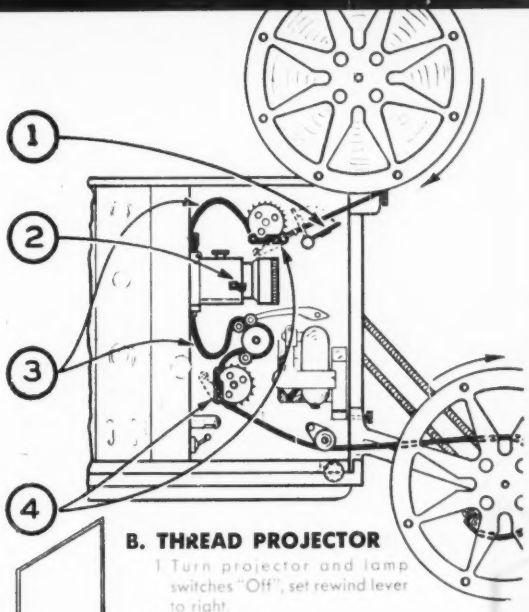
To rewind, attach film directly from take-up reel to feed reel, turn shifter knob to "REWIND" and turn on motor.

RCA THREADING

A. SET UP PROJECTOR

1. Attach arm, (packed in speaker case) in front edge of projector by means of the thumb screws.
2. Release latch; pull spring belts out of projector case; place over pulleys.
3. Set this switch to "Film".
4. Turn these switches "Off".
5. Unreel speaker cable (packed in speaker case) and plug in here.
6. Attach power cord here. Plug free end into 110V-60 cycle A.C only.
7. To center light on screen turn projector and lamp switches "On". Then raise front of projector by turning tilt knob.



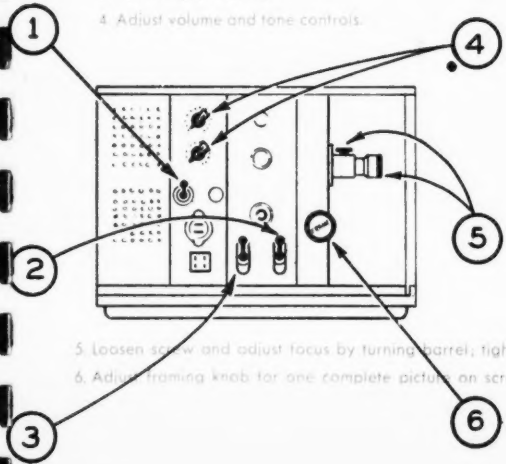


B. THREAD PROJECTOR

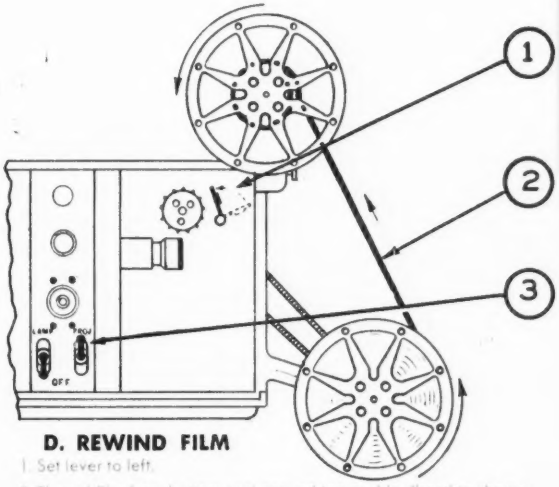
1. Turn projector and lamp switches "Off", set rewind lever to right.
2. Open gate by pulling out on hook; open sprocket shoes; unwind 4 feet of film; insert film as shown.
3. CAUTION: Form loops above and below the lens to follow the white guide lines closely and close gate.
4. Engage film with sprocket teeth; close sprocket shoes.

C. RUN THE SHOW

1. Turn amplifier switch "On".
2. Turn projector switch "On". Film loops must be maintained with projector running.
3. Turn lamp switch "On".
4. Adjust volume and tone controls.

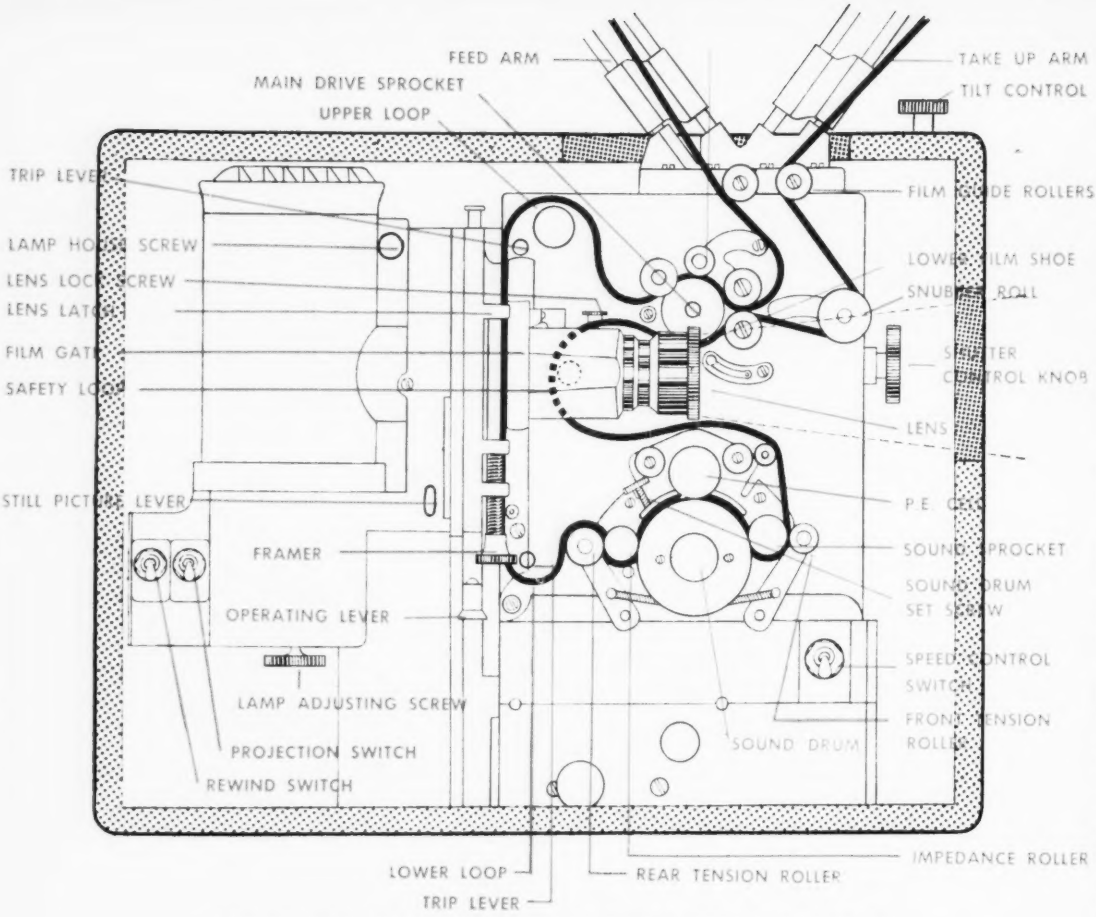


5. Loosen screw and adjust focus by turning barrel; tighten.
6. Adjust framing knob for one complete picture on screen.



D. REWIND FILM

1. Set lever to left.
2. Thread film from bottom reel around top reel in direction shown.
3. Turn projector switch "on."



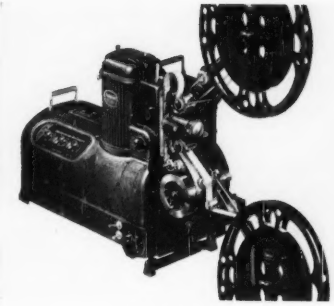
VICTOR ANIMATOGRAPH THREADING

1. Place full reel of film on feed arm, attach loose end to empty reel on take-up arm.
2. Pull down loop to thread sound drum.
3. Thread sound sprocket. (Close front tension roller)
4. Form safety loop.
5. Thread drive sprocket. (Close film shoe)
6. Thread snubber roller.
7. Thread impedence roller. (Close rear tension roller)
8. Form lower loop.
9. Thread film channel (Close film gate)
10. Form upper loop.
11. Thread drive sprocket (Close film shoe)
12. Check threading by turning shutter control knob.

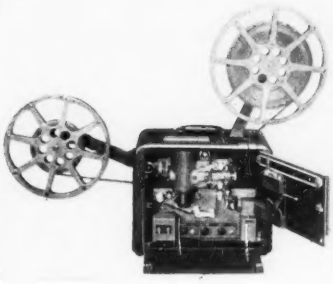
REWINDING

1. Attach loose end of film to empty reel on feed arm.
2. Remove spring belt from take-up arm. Place spring rewind belt on feed arm pulley.
3. Turn on rewind switch.
4. Brake full reel with hand.

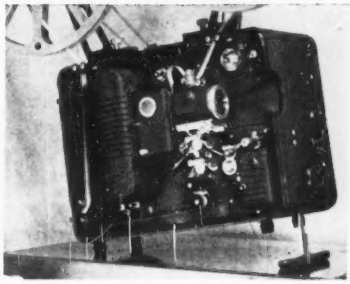
16MM SOUND MOTION PICTURE PROJECTORS



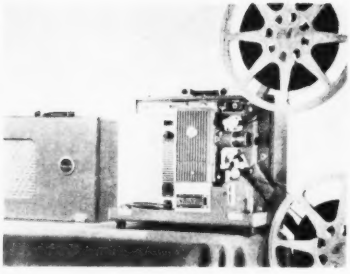
AMPRO



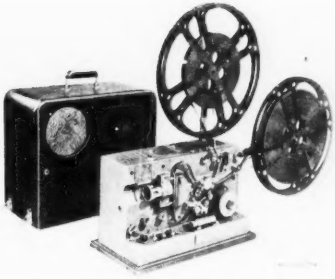
BELL & HOWELL



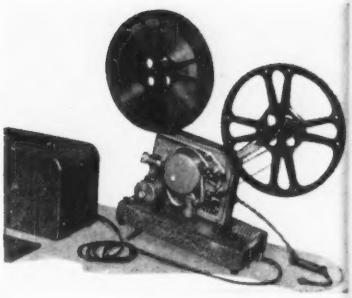
DeVRY



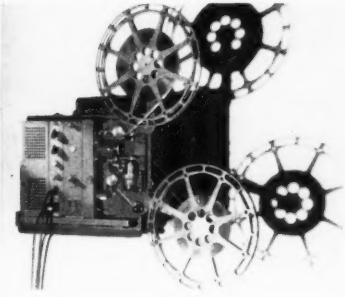
EASTMAN KODAK



FORWAY

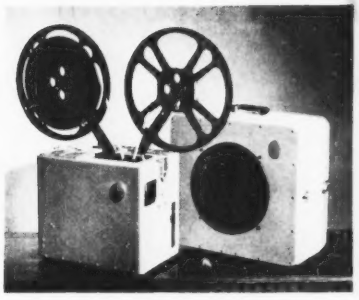


MOVIE - MITE



RCA

REVERE



VICTOR ANIMATOGRAPH

A DIRECTORY OF AUDIO-VISUAL EQUIPMENT MAKERS

• **For your convenient reference in writing for reference literature, price quotations, and other useful data on audio-visual projection equipment and accessories, we include this directory of representative manufacturers and their headquarters addresses:**

16MM SOUND-ON-FILM PROJECTORS

Ampro Corporation, 2835 North Western Avenue, Chicago 18, Illinois.

Bell & Howell Company, The, 7100 McCormick Road, Chicago 45, Illinois.

DeVry Corporation, 1111 Armitage Avenue, Chicago 14, Illinois.

Eastman Kodak Company, Rochester 4, New York.

Kolograph: National Sound Projector Corporation, 8044 Ridgeway, Skokie, Illinois.

Forway Corporation, 245 West 55th Street, New York 19, N. Y.

Movie-Mite Corporation, 1105 E. Truman Road, Kansas City 6, Missouri.

RCA Victor Division, Visual Products Section, Radio Corporation of America, Camden, New Jersey.

Revere Camera Company, 320 E. 21st Street, Chicago 16, Illinois.

Technical Service, Inc., 30865 West Five Mile Road, Detroit, Michigan.

Victor Animatograph Corporation, Davenport, Iowa.

Mitchell Camera Company, Burbank, California.

SOUND SLIDEFILM PROJECTORS

Automatic Projection Corporation, 19 West 44th Street, New York City 18, N. Y.

Illustravox Division, Electro Engineering and Manufacturing Company, 627 Alexandrine, Detroit 1, Michigan.

O. J. McClure Talking Pictures, 1115 West Washington Boulevard, Chicago 7, Illinois.

Operadio Manufacturing Company, St. Charles, Illinois.

SLIDE AND SLIDEFILM PROJECTORS

American Optical Company, Instrument Division, Buffalo 15, New York.

Argus, Inc., Ann Arbor, Michigan.

Bausch & Lomb Optical Company, Educational Sales Division, 635 St. Paul Street, Rochester, New York.

GoldE Manufacturing Company, 1214-22 West Madison Street, Chicago 7, Illinois.

Keystone View Company, Meadville, Pennsylvania.

Squibb Taylor, Inc., 1213 South Akard, Dallas, Texas.

Society for Visual Education, Inc., 1345 West Diversey Parkway, Chicago 14, Illinois.

Standard Projector & Equipment Company, 205 West Wacker Drive, Chicago 6, Illinois.

Three Dimension Company, 4555 West Addison Street, Chicago 41, Illinois.

Victorlite Industries, 5350 Second Avenue, Los Angeles 43, California.

Viewlex, Inc., 35-01 Queens Boulevard, Long Island City 1, N. Y.

Also see: Ampro Corporation, Bell & Howell, Eastman Kodak, Movie-Mite Corporation.

OPAQUE & OVERHEAD PROJECTORS

Bausch & Lomb Optical Company (see above).

Charles Beseler Company, 60 Badger Avenue, Newark 8, New Jersey.

Keystone View Company (see above).
Victorlite Industries (see above).

CONTINUOUS DISPLAY PROJECTORS

(slide, slidefilm projectors for continuous showing)

Admatic Projector Company, 111 West Jackson Boulevard, Chicago 4, Illinois.

Harwald Company, Inc., 1216 Chicago Avenue, Evanston, Ill.

LaBelle Industries, Oconomowoc, Wisconsin.

Picture Recording Company, Oconomowoc, Wisconsin.

Spindler & Sauppe, 2201 Beverly Boulevard, Los Angeles, California.

PROJECTION SCREENS

DaLite Screen Company, 2711 North Pulaski Road, Chicago 39, Illinois.

Radiant Manufacturing Corporation, 1237 South Talman Avenue, Chicago 8, Illinois.

SECTION THREE FILMSTRIP PROJECTION

SOUND AND SILENT FILMSTRIPS

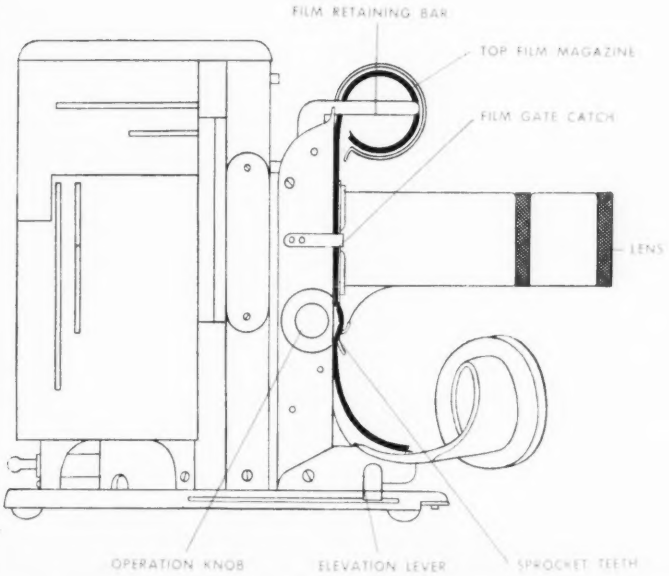
The simplicity and convenience of still picture projection, whether for lighted pictures in color or monotone, makes this visual tool one of the most widely used. The 35mm roll of still pictures arranged in sequence is familiarly called "filmstrip" or "slidefilm."

Filmstrips accompanied by a recording which explains the pictures on the screen are known as "sound slidefilms." The silent filmstrip customarily has titles and printed explanations on the film or printed in accompanying manual.

SUGGESTIONS FOR BEST USE OF FILMSTRIPS AND SOUND SLIDEFILMS

1. Be sure to engage sprocket teeth in perforations.
2. Keep fingers off surface of filmstrip.
3. Clean filmstrip occasionally with soft cloth and carbon tetrachloride.
4. When using silent filmstrip on a sound slidefilm projector do not turn on amplifier.
5. Store records in a cool place.
6. Store records so they will not warp.
7. Change steel needles for every record.
8. Clean records with soft brush.
9. Keep fingers off surface of records.
10. Handle sapphire needles with care.
11. Never cinch filmstrip.

THREADING THE FILMSTRIP PROJECTOR

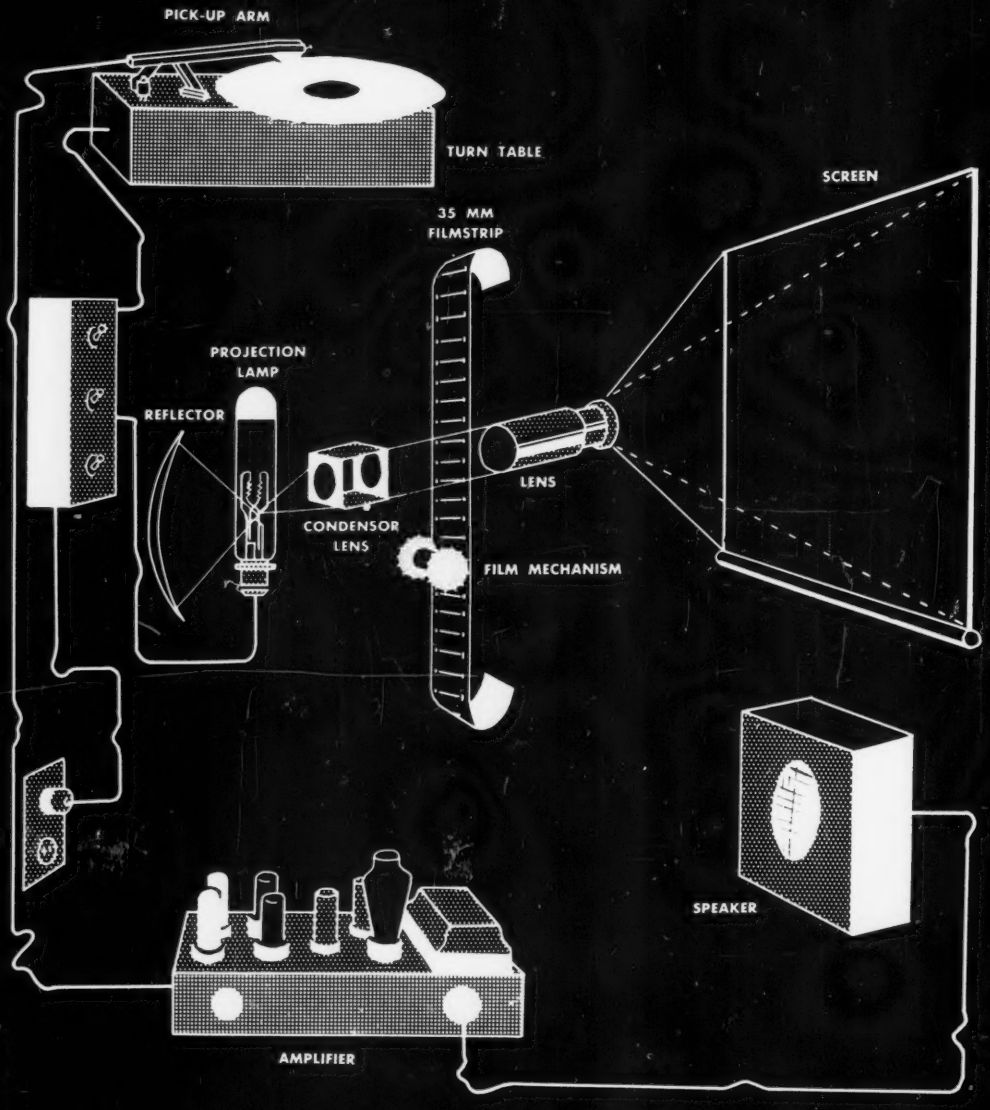


STEPS IN THREADING

1. Lift film retaining bar.
2. Insert film in top film magazine; place so film rolls counter-clockwise as it feeds.
3. Open gate by releasing gate catch.
4. Thread film on sprocket teeth. (Be sure sprocket teeth engage with film perforations.)
5. Close gate.
6. Turn on projection lamp switch.
7. Frame film by pushing in on operating knob and rotating. When picture is in proper frame, pull out on knob.
8. By turning control knob clockwise, picture will be advanced in proper frame automatically.

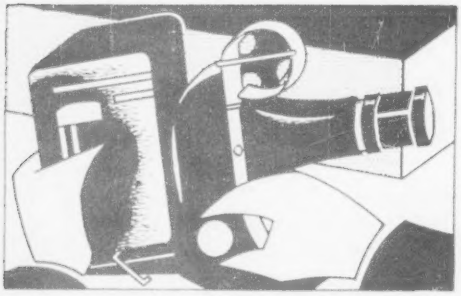
SOUND FILMSTRIP PROJECTOR

This exploded view shows the parts common to the sound filmstrip projector.

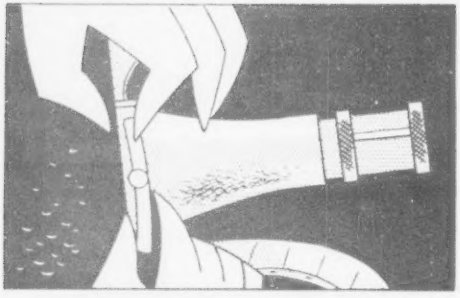


SOUND FILMSTRIP PROJECTOR

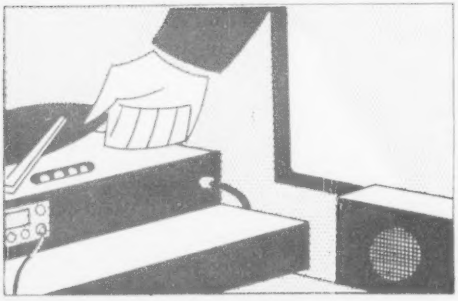
The importance of proper operation of the 35 mm filmstrip projector cannot be stressed enough. *In brief the projectionist must:*



1 Set up equipment properly. Check the AC-DC switch.

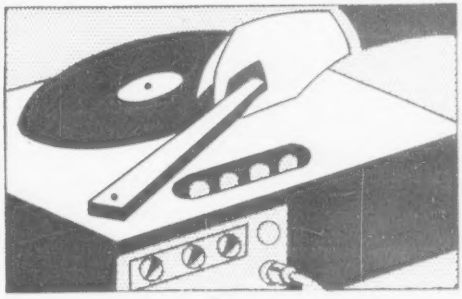


2 Check record & film titles. Thread projector; see that sprocket teeth are engaged in film.

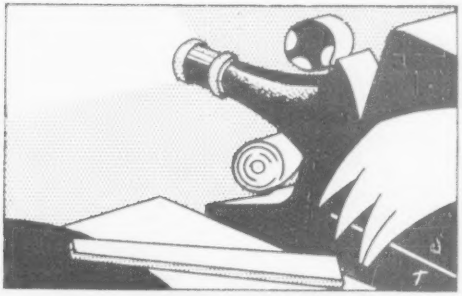


3 Warm up amplifier and turn on projector. Set speed control if dual-speed turntable.

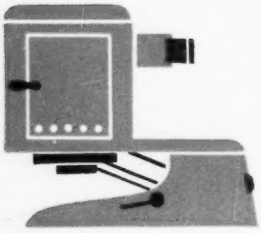
4 Frame and focus picture.



5 Synchronize record with proper frame.



6 Be alert. Advance film at proper signal. Keep sound and film synchronized.



STILL PICTURE TIPS

Suggestions for good use of slides, opaque projection and other valuable teaching tools

USING THE OPAQUE PROJECTOR

After illustrations, diagrams, charts or printed matter have been selected, they should be carefully arranged in sequence before the showing. The operator should be carefully instructed as to his duties and cues arranged beforehand.

Use a good projection screen, preferably of the beaded type, to give all possible brilliance to these materials. The room should be darkened as much as possible and the image kept comparatively small for brilliance. Pictures should not be kept in the projector too long. The instructor should stand beside the screen with a pointer.

TIPS ON SLIDE PROJECTION

Projectors of three general types are used. They are (1) the filmstrip projector with a 2" x 2" slide adapter; (2) the slide projector in two standard sizes, 2" x 2" or 3¼" x 4"; and (3) the slide projector size 3¼" x 4" with an adapter for 2" x 2" slides.

Follow the manufacturer's instructions carefully. The instruction sheet furnished with each projector should be mounted on cardboard and kept with the projector.

Slides should not be left too long in the projector. Seven to ten minutes is the limit for glass-mounted slides; two to three minutes for cardboard mounts. Color film should not be allowed to remain as long as black and white. Store slides carefully to avoid breakage.

USING POSTERS, CHARTS AND DIAGRAMS

There are five good rules to follow in the use of posters, charts and other pictorial aids used without projection.

(1) They should be placed high enough for every student to see the details easily.

(2) Captions, text, and major points must be large enough to be visible to students at the back of the classroom.

(3) When explaining a chart, the instructor should stand to the side of the poster, face the class and talk to them instead of to the chart.

(4) All graphic devices and symbols should be explained.

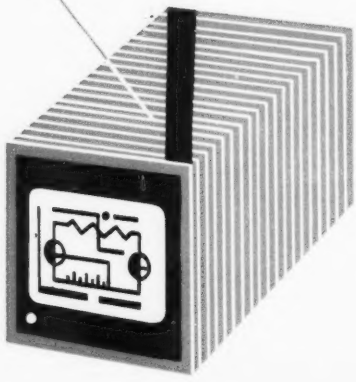
(5) All other charts or similar types of aids should be covered while one is in use; otherwise attention will be distracted.

DON'T OVERLOOK THE CHALKBOARD

The familiar chalk or blackboard is an excellent teaching tool. Here are a few tips:

Drawing of large and complicated subjects should be made before the class meets. The chalk should be trimmed square for even lines; colored chalk should be used for emphasis. The use of a straight edge or and compass will give better geometric figures. All drawings should be on a large scale and captions should be printed large.

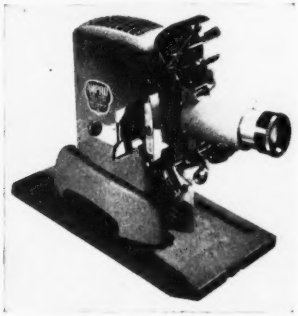
Stand at the side of the drawing, facing the class. Use a pointer.



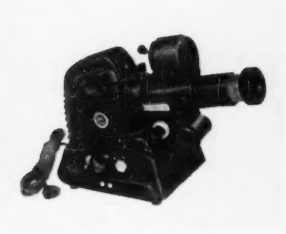
FILMSTRIP, SLIDE AND OPAQUE PROJECTORS

— for —

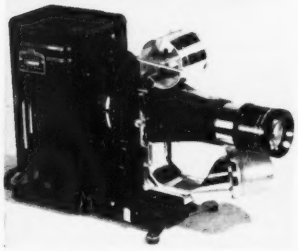
SLIDE & SLIDEFILM



Ampro Model 30-D

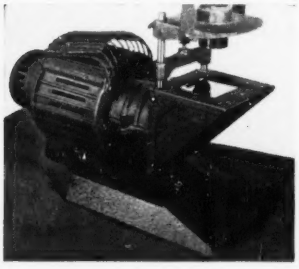


Golde Triple-Purpose



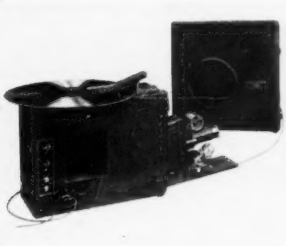
S.V.E. Model AAA

OVERHEAD

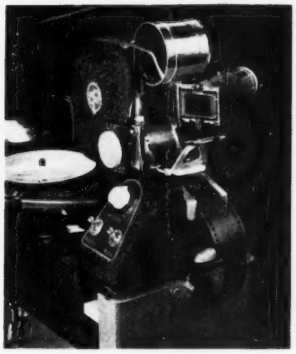


Keystone Model 245

SOUND SLIDEFILM



Illustravox Senior



Operadio Explainette

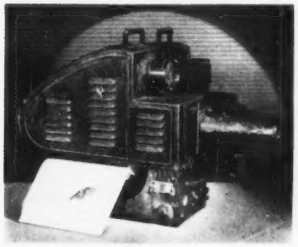
Soundview

Other Projectors

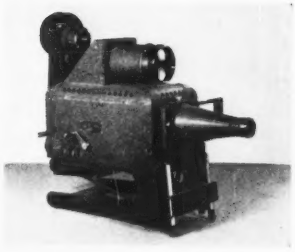
Only a comparative few of the many available slide, slidefilm and opaque projector models are shown on this page. For latest data on all makes write Business Screen, Reader Service Bureau, 150 East Superior Street, Chicago 11, Illinois.

SLIDE & OPAQUE

Bausch & Lomb Model LRM

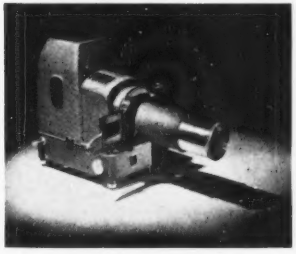


Beseler Model OA2



Spencer Delineascope

2″ x 2″ SLIDES



Filmo Duo-Master

RECORDINGS

Learning through listening fills an important place in many kinds of instruction: speech training, music appreciation, language arts, reading skills, etc. The advent of excellent sound reproduction methods such as tape and wire recording to supplement the widely used disc player only serves to emphasize the ever-widening field for this type of audio material in schools, churches and industry.

THE VALUE OF RECORDINGS

Learning in many ways takes place best through the auditory sense. Sometimes it is desirable only to *hear* what is to be learned. Seeing is not always necessary.

Recordings help to convey accurate information, delivered by executive, technical or scientific personnel, etc. as well as aiding the development of auditory skills.

PREPARATION FOR CLASSROOM USE

When the class meets, the instructor should explain the content of the record (or of the recording to be made) and the purpose for its use. The class should be instructed to find answers to definite questions and listen for specific points.

The recording should then be played through. The instructor may replay the entire recording or certain portions if necessary.

Both class and instructor should listen attentively. All possible outside and room noises should be eliminated.

At the end of the playing period, the instructor should review and summarize the main points. During the discussion period new questions should be clarified. The content of the recording should always be related to other class activities.

CLASS PROCEDURE

An excellent bibliography of suggested recordings for school use has been prepared by the Editors of See & Hear Magazine. Among the sources in this field are the U. S. Office of Education, RCA Victor, Linguaphone, Training Aids, the Audio-Visual Division of Popular Science, etc.

The range of curriculum subjects includes the field of literature and poetry, the language arts, the social studies and music. Recordings can be utilized well in such programs. They are vivid and dramatic; they arouse emotional response. They can present people and situations far removed from students and the classroom.

In business education and sales training, the use of recorded messages and inspirational talks is an obvious field. But technical facts can also be presented without loss of accuracy in transmission. Field demonstrations with charts or lighted pictures can be accompanied by transcriptions. For such purposes, the slow-speed transcription (33 ⅓ rpm) is most suitable because of program length possible on a single side of a record.

TROUBLE CHART FOR MOTION PICTURE PROJECTORS

This table identifies with (X) the probable causes (listed below) that should be investigated when the trouble symptoms (at right) appear. When the projectionist is not qualified to make the necessary repairs, the nearest service agency of the manufacturer should be consulted.

	probable causes of trouble	trouble symptoms							
		No sound	Impaired sound	No picture	Poor picture	Hum or other noises	Irregular motor	Picture and sound not synchroniz	Loss of film loops
1	Low line voltage		X		X	X	X		
2	High line voltage					X	X		
3	Speaker improperly or not connected	X	X			X			
4	Amplifier not on	X							
5	Amplifier tubes defective	X	X			X			
6	Exciter lamp defective	X	X			X			
7	Photo electric cell defective	X	X			X			
8	Projector lamp burned out			X					
9	Projector lamp out of alignment				X				
10	Lens incorrectly focused				X				
11	Film incorrectly threaded	X	X		X	X		X	X
12	Volume control not on or defective	X	X			X			
13	Fuse burned out	X							
14	Projector cable broken or loose	X	X			X	X		
15	Defective motor belts		X		X				
16	Poor acoustics		X						
17	Dirty sound lens	X	X			X			
18	Dirty projection lens and reflectors				X				
19	Speed control at wrong position		X		X				
20	Film channels dirty	X	X		X				
21	Lack of or too much oil		X			X	X		
22	Motor governor brushes dirty or damaged		X			X	X		
23	Motor commutator dirty or damaged		X			X	X		
24	Poor contact in line cord	X	X	X	X		X		
25	Poor screen or extraneous light				X				
26	Defective or dirty film		X		X				X
27	Line polarity or plugs switched	X	X			X			
28	Film gate pressure shoe not seating properly		X		X				X
29	Faulty switch	X		X					

PROJECTIONIST'S CHECK SHEET

Use this sheet to check off the steps involved in the operation of each make of projector.

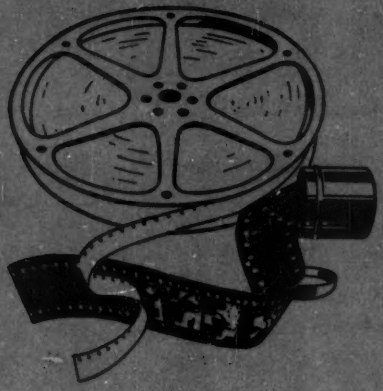
OPERATIONS	16mm Projectors					Filmstrip Projectors		
Before the Showing:								
Check equipment								
Set up equipment								
Clean equipment								
Check film								
Thread projector								
Test run								
Starting the Picture:								
Turn off room lights								
Turn on projector motor								
Turn on lamp								
Check focus								
Fade in volume								
Adjust tone								
During the Showing:								
Adjust volume and tone								
Frame picture								
Check film for damage								
Keep picture in focus								
Check loops								
Ending the Picture:								
Turn off lamp								
Fade volume								
Turn off motor								
Turn off amplifier								
After the Showing:								
Rewind film								
Clean projector								
Pack equipment								
Make out records								
Lubrication and Maintenance:								
Locate all oil holes								
Replace lamps (proj. exciter)								
Replace fuse								
Replace take-up belt								
Clean lens and reflector								
Splice film								

The Film Prayer

I AM FILM, not steel; o user, have mercy. I front dangers whenever I travel the whirring wheels of mechanism. Over the sprocket wheels, held tight by the idlers, I am forced by the motor's magic might. If a careless hand misthreads me, I have no alternative but to go my death. If the pull on the takeup reel is too violent, I am torn to shreds. If dirt collects in the aperture, my film of beauty is streaked and marred, and I must face my beholders — a thing ashamed and bespoiled. Please, if I break, never fasten me with pins which lacerate the fingers of my inspectors. Don't rewind me — my owner wants that privilege, so that he may examine me, heal my wounds, and send me rejuvenated upon a fresh mission.

I travel many miles in tin cans. I am tossed on heavy trucks, sideways and upside down. Please see that my first few coils do not slip loose in my shipping case, and become bruised and wounded beyond the power to heal. Put me in my own can. Scrape off all old labels on my shipping case so I will not go astray.

Speed me on my way. Others are waiting to see me. The next day is the last day I should be held. Have a heart for the other fellow who is waiting, and for my owner who will get the blame.

I am a delicate ribbon of film — misuse me and I disappoint thousands; cherish me, and I delight and instruct the world.

A. P. HOLLIS